Remarks

Claims 1-26 were pending in this application. By this paper, applicant affirms the election made on February 3, 2003 and hereby cancels withdrawn claims 18-26. The present Amendment also cancels claims 3 and 5 and amends claims 4, 6, 7, 9 and 11-13. The present Amendment also adds new claims 27-37. No new matter has been added by the present Amendment. After entry of the present amendment, claims 1-2, 4, 6-17 and 27-37 will be pending. Reconsideration of the application in view of the present Amendment and the following remarks is respectfully requested.

Claims 7 and 10 were rejected under 35 U.S.C. § 112, second paragraph. These claims have been amended to overcome the 35 U.S.C. § 112 rejection. Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. § 112 rejection.

Claims 1-17 were rejected under 35 U.S.C. § 103 as being unpatentable over either U.S. Patent No. 5,273,202 Dalal et al. (hereinafter "*Dalal*") or U.S. Patent No. 5,070,228 Siemers et al. (hereinafter "*Siemers*"). Applicants respectfully traverse this rejection.

The present invention is directed to a method of spray joining articles wherein at least one of the articles is a steel spray formed article. Because of the nature of the spray form article, conventional metal joining techniques are not useable. This is because in most metal joining techniques that use metal, the temperature to melt the metal is so high that it causes the spray form metal to undergo a phase transformation which results in a volumetric change in the spray formed part. These volumetric changes obviously are unsuitable for the end use of the resulting part when it is desired to use the resulting part in some sort of a part forming process, that spray formed articles are typically used for.

The present invention, as recited in independent claim 1, recites a method of providing a spray formed composite article. The method comprises (a) providing a first spray

formed article, (b) locating a second article adjacent the first article, (c) spraying metallic particles onto the articles, and (d) allowing the sprayed metallic particles to form a metal deposit extended between and connecting the first and second articles.

Neither *Dalal* nor *Siemers* disclose, teach or suggest the present invention. As set forth in the Office Action, these references do not relate to joining parts, wherein at least one of the parts to be joined is a spray formed part. The parts to be joined in these references are made of high strength, high temperature resistant materials such as nickle and tungsten. As a result of the materials the articles to be joined are made of, the spraying process used in those references create high temperatures, such as on the order of 1300°C and above, on the surfaces of the articles to be joined. However, also as a result of the material of the articles to be joined, the surfaces in these references are able to sufficiently withstand these types of temperatures.

Acknowledging that the references do not disclose spray joining spray formed parts, the Examiner asserts that "it would have been obvious to those of ordinary skill in the casting art that the parts can be either spray formed or conventional cast . . . ." While the assertion is not entirely clear, it is clear that the Examiner offers no more than an apparent conclusion that the invention would apparently have been obvious. There is no explanation of why the present invention would be obvious or where in the prior art the necessary modification of the prior is suggested. Such a rejection cannot stand.

The law requires that there be some teaching, suggestion or motivation in the prior art to modify any particular reference. Specifically, the Federal Circuit requires that the motivation to modify the prior art must flow from the teachings in the art that suggest the desirability or incentive to make the modification needed to arrive at the claimed invention. *See In Re Napier,* 34 USPQ2d 1782, 1784 (Fed. Cir. 1995); *In Re Gordon,* 221 USPQ 1125,

1127 (Fed. Cir. 1984) ("[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior suggest the desirability of the modification").[1]

The CAFC has indicated that the requirements for showing motivation in the prior art is "rigorous." *In Re Gordon,* at 1127; *In Re Anita Dembizcak and Benson Zinbarg,* 50 USPQ2d 1614 (Fed. Cir. 1999). Moreover, this showing which is rigorously required must be "clear and particular." *Dembizcak* at 1617. *See also, C.R. Bard v. M3 Systems, Inc.,* 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). It is well established that merely because references can be modified, the mere suitability for motivation does not provide motivation for the modification. *See In Re Gordon,* 221 USPQ 1125, 1127 (Fed. Cir. 1984); *Berghauser v. Dann, Comr. Pats.,* 204 USPQ 393 (D.C. 1978); *ACS Hospital Systems, Inc. v. Montefiore Hospital,* 221 USPQ at 929 (Fed. Cir. 1984). Here, the requisite motivation to modify the references in the prior art is not present.

Furthermore, it should be understood that modifying the prior art or taking teachings from the prior art and applying them to the present invention would not result in an operable process. This is because of the chemical structure of the spray formed articles that the present invention pertains to.

Spray formed articles are primarily formed of steel. The castings of the prior art are different in kind from the spray formed article recited in claim 1. Spray formed articles contain a significant level of oxides (usually on the order of about 16%), and are quite porous (usually on the order of about 13%). The cast articles in the prior art are conversely dense and have essentially no porosity. Furthermore, castings are much stronger articles than spray formed articles. For instance, typical castings have a tensile strength of about 50-200 Ksi, whereas spray formed articles typically have a tensile strength of about 2-10 Ksi. Furthermore, spray formed steel articles have a martensitic structure which undergoes phase transformation (to the austenite phase) at temperatures above about 400°C. The materials that

[1] Copies of all cases cited herein are attached for the Examiner's convenience.

are being sprayed in the prior art and the materials that are being sprayed onto in the prior art have melting point and phase transformation temperatures well in excess of 400°C. If the prior art processes were modified to include a spray formed article as one of the article being joined, the temperature of the resulting process would be too high for the spray formed article to withstand. As such, the resulting composite part would be unsuitable for its desired end use. Specifically, the resulting spray formed article would undergo severe dimensional instability and in particular, result in an unacceptable volume reduction. Furthermore, the joined products in the cited prior art do not require a smooth interface.

For the reasons above, one of ordinary skill in the art would not be motivated to look to the cited references for teachings on how to join spray formed articles.

Other differences exist between the present invention and the prior art references. The prior art references require preparation and post processing, i.e., preheating, specialized vacuum cleaning, heat treatment, etc. As set forth above, the prior art patents also disclose exposures to high temperatures.

For the reasons set forth above, one would not be motivated to look to the prior art patents for teaching on joined spray formed articles. Accordingly, Applicants respectfully request withdraw of the 35 U.S.C. § 103.

Claims 2, 4, 6-17 and 27-35 all depend either directly or indirectly from claim 1 and are therefore allowable for at least the same reasons as claim 1. Moreover, these claims add further features which render them separately allowable.

For instance, claim 7 recites that the intermediate surfaces extend at an angle of 5° to 25° relative to each respective upper surface. This is not disclosed, taught or suggested in the prior art. Moreover, the Examiner rejection, apparently in view of *Koshiga* et al., does not appear to be proper. Applicants have reviewed *Koshiga* et al. and did not find

any disclosure whatsoever of angled spraying surfaces and certainly did not find any clear and particular teaching of a 5° to 25° angle.

Claim 7 recites that a reinforcing member is provided proximate the first and second article and claim 8 recites that the metal deposit extends between and connects the reinforcing member with at least one of the first and second articles. These teachings are not disclosed or suggested by the prior art. Specifically, Applicants have reviewed the *Sullivan* reference (apparently cited by the Examiner) and did not find any clear and particular teaching of these limitations.

Claims 15 and 16 recite that the second article is a securing member that is located on the first spray formed article in step (b). These limitations are not disclosed, taught, or suggested in the prior art. Specifically, there is no disclosure in the prior art of putting an article on top of a second article to join the articles together. Such a process as set forth by the Applicants allow composite articles to be formed wherein at least one of the articles in the composite is a securing member for securing the article to another substrate.

Claim 28 recites that the temperature of the article during step (c) is monitored and maintained below 400°C. As set forth above, the temperature of the prior art processes are well in excess of 400°C, rendering them inoperable for the present invention.

Claim 30 recites that the sprayed metallic particles are allowed to air cool to room temperature to form the metal deposit. There is no teaching whatsoever in the prior art of air cooling. The prior art teaches specific cooling technique – not air cooling.

Claim 31 recites that the metal deposit is ground and smoothed to form a deposit article having an essentially seamless upper surface. Such a process allows the resulting composite article to be used in a part forming tool. The prior art does not teach, nor is it concerned, with such a process. Spray formed articles find a predominate use as part forming tools. The prior art is not concerned with such articles.

Claim 32 recites that a second metal deposit is formed that extends between and connects the reinforcing member with at least one of the articles. The second metal deposit is separate from the first metal deposit and results in additional strengthening of the bond between a reinforcing plate member and the article. Claim 35 recites that the interface surfaces are sinusoidal-shaped. Such a configuration provides an improved bond strength.

Independent claim 36 recites a method of providing a spray formed part forming tool. The method comprises (a) providing a first spray formed steel article, (b) locating a second spray formed steel article adjacent the first article, (c) spraying steel particles onto the articles while monitoring and maintaining the temperature of the articles between 20°C to 400°C, (d) cooling the sprayed steel particles to room temperature to form a metal deposit extending between and connecting the first and second articles, (e) grinding the metal deposit flush relative to the articles, and (f) smoothing the deposit to form a spray formed part forming tool. None of the prior art teaches, discloses or suggests limitations of claim 36. Claim 36 is accordingly allowable.

Claims 37 through 38 depend from claim 36 and are therefore allowable for at least the same reasons as claim 36 as well as all the limitations recited therein.

Applicant submits that the claims are in a condition for allowance and respectfully request a notice to that effect. If the Examiner believes that discussion or a claim amendments of a minor nature would advance the prosecution of the application, the Examiner is highly encouraged to telephone the Applicants' attorney at the number given below.

The Commissioner is hereby authorized to charge the $18.00 additional claim fee and any fee deficiency associated with the filing of this Paper to the Deposit Account of Applicants' assignee, Ford Global Technologies LLC, Deposit Account No. 06-1510. A duplicate copy of the Amendment Transmittal is enclosed for this purpose.

Respectfully submitted,

GRIGORIY GRINBERG ET AL.

By_____
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In *Hercofina*, a copy of a "Joint Venture Agreement" was made of record which expressly appointed various "officials" to serve on a venture-created "Board of Managers" which ran the daily operations of the venture. This agreement stated that the "general manager" was "the chief executive and operating official of the Venture" having "general charge of the business and property of the Venture and sufficient and adequate authority to be the day-to-day manager of the affairs of the Venture." In addition, the "general manager" was expressly authorized to "execute, make, amend, deliver, file and abandon foreign and domestic applications, for and relating to letters patent and trademark and copyright registrations. . . ." *Hercofina*, 207 USPQ at 780-81.

[2] Although the central issue in the *Hercofina* case dealt with who is the proper signatory for a joint venture, there is no doubt that the facts of *Hercofina* and the instant case are closely aligned. In the present situation, the Applicant partnership created a "Partnership Board" much like the "Board of Managers" for the Hercofina joint venture. Both Boards appear to have similar functions in that they are responsible for managing the daily operation of the business through appointed officials. In both cases these operating officials have been given duties that are analogous to those of officers of a corporation, and indeed have been given officer titles such as "President" (in *Hercofina*, 207 USPQ at 780, the "general manager" was later designated as "President" of the Board) and "Senior Vice President, General Counsel and Secretary." In addition, both signatories have been given explicit authorization to act on the company's behalf with respect to any trademark filings, and both signatories have had the requisite personal knowledge regarding the use of the trademark.

Based upon the above analysis, it appears that the individual who signed both the application and Statement of Use was a proper signatory for Applicant partnership, and the documents were thus properly executed as required by Section 1 of the statute.

Accordingly, the petition is granted, and the application will be returned to the Examining Attorney for action consistent with this decision.

U.S. Court of Appeals
Federal Circuit

In re Napier

No. 93-1363

Decided May 22, 1995

PATENTS

1. Patentability/Validity — Obviousness — Relevant prior art — Particular inventions (§115.0903.03)

Application claim that teaches redirection of turbine engine exhaust noise by directing stream of relatively cold air through exhaust path of engine is obvious in view of prior patent that teaches noise reduction in turbine propulsion engines by mixing ambient air with hot combustion gases, since refraction of sound waves, and therefore redirection of noise, is inherent in prior patent, and since even if it is assumed that application claims are limited to non-propulsion engines, goal of achieving significant noise reduction from aircraft would have motivated one skilled in art to apply methods for reducing noise in propulsion engines to parallel problem of combustion noise from aircraft's non-propulsion auxiliary power unit.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of James C. Napier, serial no. 07/467,179, filed January 19, 1990 (redirection of turbine exhaust noise). From decision upholding examiner's rejection of application claims 1-3, 5, 7, 8 and 10, applicant appeals. Affirmed.

Donald E. Stout, William I. Solomon, and Alan E. Schiavelli, of Antonelli, Terry, Stout & Kraus, Arlington, Va., for appellant.

Fred E. McKelvey, solicitor, Albin F. Drost, deputy solicitor, Richard E. Schafer, associate solicitor, Joseph G. Piccolo, and Richard L. Torczon, assistant solicitors, for appellee.

John T. Whelan, of Fitzpatrick, Cella, Harper & Scinto, Washington, D.C.; Anthony W. Shaw, of Burns, Doane, Swecker & Mathis, Alexandria, Va., for amicus curiae.

Before Plager, Clevenger, and Schall, circuit judges.

Plager, J.

James C. Napier (Napier) appeals from the March 16, 1994 decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences (Board), Appeal No. 93-0040. The Board affirmed the examiner's final rejection of claims 1-3, 5, 7, 8, and 10 of application Serial No. 07/467,179 (the '179 application), entitled "Redirection of Turbine Exhaust Noise."[1] Claims 1-3 and 5 stand rejected under 35 U.S.C. §§ 102(b) and 103 (1988),[2] and claims 7, 8, and 10 stand rejected under 35 U.S.C. § 103. We agree that all the claims are unpatentable on the ground of obviousness under section 103, and therefore affirm.[3]

BACKGROUND

Noise from both non-transportation and transportation-related sources, like aircraft, has long been recognized as a serious environmental problem, affecting human health and activity.[4] A major source of noise emitted by modern jet aircraft is the engines they employ, both for propulsion and for auxiliary power. Propulsion engines move the plane, and provide power, mechanical, hydraulic, or electrical, for the operation of the aircraft while aloft. Auxiliary power units (APUs) are generally used to provide such operational power when the plane is on the ground.

Unlike the noise created by turbine propulsion engines, largely a function of fast moving exhaust air passing across relatively still air, the noise from an APU is produced by combustion within the engine. APUs, in operation when the plane is on the ground, are typically located in the rear section of the fuselage of an airframe behind the cargo doors. Their noise can be a problem for ground crew members working in or around the aircraft. Exhaust silencers have been used to reduce the amount of noise from APUs, but these have the disadvantage of being heavy and bulky, thereby reducing the operational efficiency of the aircraft.

The '179 application is directed to an aircraft APU that redirects noise, produced by combustion, away from specific locations on the aircraft. The device works by directing a stream of relatively cold air in a separate cold air pipe through the exhaust path of the engine to create essentially parallel flowing streams. Since sound travels faster through denser mediums, and cold air is denser than warm air, once the exhaust gases and separately contained cold air exit from the exhaust pipe, the sound from the APU refracts toward the path of cold air instead of the path it otherwise would take. Therefore, placing the cold stream in the center of the exhaust pipe of an APU permits redirecting of the noise away from locations on the aircraft (such as the cargo doors where ground crew are working) forward of the point at which the APU is mounted on the fuselage, thereby reducing the noise level at those locations.

The '179 application was filed on January 19, 1990, with Napier as the sole named inventor. The claims of that application that are at issue in this appeal are claims 1-3, 5, 7, 8 and 10.[5] On September 17, 1991, the

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[1] The Board also affirmed the examiner's rejection of claims 12-14, but appellant withdrew his appeal with respect to those claims.

[2] Unless specified otherwise, all cites to the United States Code are for the year 1988.

[3] Since we affirm under § 103 with respect to the claims 1-3 and 5, we do not address the § 102 rejection of these claims.

[4] *See* Roger W. Findley & S. Jay Plager, *State Regulation of Nontransportation Noise: Law and Technology*, 48 So. Cal. L. Rev. 209 (1974).

[5] The claims read:

1. An auxiliary power unit in an airframe for producing only non-propulsion power which redirects noise produced by combustion comprising:

a combustor for producing combustion gases which contain noise produced by combustion;

a turbine rotor powered by the combustion gases form [sic, from] the combustor;

at least one power producing device driven by rotation of the turbine rotor;

an exhaust pipe having an inlet which receives combustion gases discharged from the turbine rotor and an outlet from which the combustion gases are discharged; and

means, disposed within the exhaust pipe, for refracting noise in the combustion gases outside the exhaust pipe in a predetermined direction outside the exhaust pipe with respect to a centerline of the exhaust pipe to produce a net noise reduction at a selected part of the airframe.

2. An auxiliary power unit in accordance with claim 1 wherein means for refracting comprises:

a cold air supply coupled to the exhaust pipe for injecting cold air into the combustion gases which flow within the exhaust pipe and from the outlet substantially parallel to the combustion gases to cause noise present in the exhaust gases outside the outlet to be refracted in the predetermined direction outside the exhaust pipe from the combustion gases into cold air flow flowing from the outlet.

3. An auxiliary power unit in accordance with claim 2 wherein the cold air supply injects air

examiner issued a final office action rejecting claims 1-3 and 5 as anticipated by U.S. Patent No. 4,567,960 (Johnson); claims 1-3 and 5 as obvious over Johnson; and claims 7, 8 and 10 as obvious over Johnson in view of U.S. Patent No. 3,599,749 (Millman).

Johnson is directed to a nozzle for reducing propulsion engine noise from aircraft during takeoff. The nozzle consists of air inlets that are connected to a central tube in the exhaust pipe such that during takeoff outside air is drawn into the central tube via the air inlets exiting at the downstream end of the central tube where it then mixes with the exhaust gases. According to Johnson, the mixture of the outside air with the exhaust gases produces a significant noise reduction during takeoff. Millman is also directed to a nozzle for suppressing noise from a propulsion jet engine, but it additionally discloses the use of a compressor to supply the air that mixes with the exhaust gases.

The Board affirmed the examiner's final rejection in a decision dated March 16, 1993. Regarding claims 1-3 and 5, the Board determined, *inter alia*, that it would have been obvious to utilize the noise suppression teachings of Johnson on a non-propulsion power unit. As to claims 7, 8 and 10, the Board concluded that the combined teachings of Johnson and Millman would have rendered obvious the inventions defined in claims 7, 8 and 10. This appeal followed.

DISCUSSION

It is well established that the ultimate determination of obviousness is a question of law, which we review without deference to the Board's judgment. *See In re Woodruff*, 919 F.2d 1575, 1577, 16 USPQ2d 1934, 1935 (Fed. Cir. 1990). Therefore, it is our responsibility to make the the final conclusion based on our reading of the record before us, giving appropriate deference to the Board's underlying factual determinations, such as what a reference teaches. *See In re Beattie*, 974 F.2d 1309, 1311, 24 USPQ2d 1040, 1041 (Fed. Cir. 1992).

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990) (quoting *Carella v. Starlight Archery and Pro Line Co.*, 804 F.2d 135, 140, 231 USPQ 644, 647 (Fed. Cir. 1986)). However, the "suggestion to modify the art to produce the claimed invention need not be expressly stated in one or all the references used to show obviousness." *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985). Rather, the test is whether the combined teachings of the prior art, taken as a whole, would have rendered the claimed invention obvious to one of ordinary skill in the art. *See In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

Napier's principal argument on appeal is that Johnson teaches the reduction of noise by mixing, whereas his claimed invention is directed to the redirection of noise by refraction. Therefore, according to Napier, one of ordinary skill in the art would not have been motivated to utilize the teaching of Johnson to produce the claimed invention. We disagree.

[1] The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness. *See In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983). The Board found that, although Johnson only discloses noise reduction resulting from the mixture of ambient air with the hot combustion gases, sound waves are inherently refracted in Johnson's system. In support, the Board relied on the teaching of the prior art British Patent No. 653,544 (British patent) which explicitly states that sound waves will be refracted from a hot gas to a cold gas due to the difference in densities.[4] In view of this evidence and the deference owed to Board fact findings, we conclude that the Board properly found that Johnson inherently discloses redirection of noise.

Regarding claim 1, the only other argued difference between the claimed invention and Johnson is that Johnson is directed to propulsion engines whereas Napier's claims are limited to non-propulsion APUs. Since noise from propulsion engines comes from shearing whereas noise from APUs is a result of combustion in the engine, it follows, Napier argues, these are directed to different specific problems, and therefore one of ordinary skill would not be motivated to utilize the teachings of Johnson regarding propulsion engines to solve the distinct problems regarding non-propulsion APUs. We again cannot agree.

Even if we assume that Napier's claims are limited to only APUs,[7] propulsion engines and APUs combine to create the problem of noise generated from aircraft. It makes no difference that Johnson may have addressed a different mechanical source of the problem within the area of aircraft noise reduction, or a different noise-producing process. We agree with the Board that the goal of Johnson, to achieve "significant noise reduction"[8] from aircraft would have motivated one of skill in the art to apply teachings regarding noise reduction methods applicable to shear-generated noise from an aircraft's propulsion engine to the parallel problem of combustion noise from an aircraft's non-propulsion APU. *See In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039-40 (Fed. Cir. 1983). Thus we conclude that the Board did not err in rejecting claim 1 under section 103.

Napier has separately argued the merits of some of the other rejected claims, and therefore we must review the Board's decision with respect to each separately argued claim. As to claims 2 and 5,[9] Napier argues that it would not have been obvious to use a parallel flow of cold air and exhaust gases as recited in claim 2 or to redirect noise to produce a net reduction in noise at the cargo door as recited in claim 5. Although the Board did not separately address claim 2, even if this limitation — substantially parallel flow — was not found in Johnson, this would not be enough to avoid a rejection of the claim under section 103. Moreover, our review of the record shows that Figs. 3 and 4 of Johnson both show substantially parallel flow of the cold air and exhaust gases. As to claim 5, the Board concluded that since Johnson inherently reduces noise, the net noise at the cargo door would likewise be reduced. We find no reversible error in this finding, either. We therefore also affirm the Board's rejection of claims 2 and 5 as obvious over Johnson.

Finally, Napier argues that the Board erred in concluding that claims 7, 8 and 10 were obvious over the combination of Johnson and Millman. These claims, which depend from claims 2, 3 and 5 respectively, all contain the further limitation that the compressor supply compressed air to the combustor and to the cold air supply. The Board found that Millman explicitly teaches that cold air from the compressor may be delivered via a conduit to the area of the exhaust pipe for the purpose of reducing noise, and therefore fairly suggested using this cold supply in Johnson's noise suppression system. We find no reversible error in that finding, and therefore, conclude, as did the Board, that Johnson in view of Millman renders claims 7, 8 and 10 obvious.

The Commissioner in his brief argues that in deciding this case, we should apply to the decision of the Board the standard of review applicable to administrative agency decisions set forth in the Administrative Procedure Act at 5 U.S.C. § 706, rather than the more stringent review standard our cases have articulated. *See, e.g., In re Baxter Travenol Labs*, 952 F.2d 388, 21 USPQ2d 1281 (Fed. Cir. 1991); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *In re De Blauwe*, 736 F.2d 699, 222 USPQ 191 (Fed. Cir. 1984). Whatever merit may lie in that position, the Commissioner will no doubt be gratified to know that we were able to affirm the Board in this instance under the more stringent standard. We thus find it unnecessary to address the question of whether the APA standard is, in an appropriate case, the applicable one. *See In re Brana*, ____ F.3d ____, 34 USPQ2d 1436 (Fed. Cir. 1995).

CONCLUSION

The decision of the Board, sustaining the final rejection of claims 1-3, 5, 7, 8 and 10 as

into a center portion of an interior cross-section of the exhaust pipe.

5. An auxiliary power unit in accordance with claim 3 wherein:

the auxiliary power unit is mounted in a rear portion of an airframe; and

the noise is refracted in a direction toward a centerline extending from the exhaust pipe and toward a rear end of the airframe behind the auxiliary power unit to reduce the net noise at a cargo door of the airframe.

7. An auxiliary power unit in accordance with claim 2 further comprising a compressor for supplying compressed air to the combustor and to the cold air supply.

8. An auxiliary power unit in accordance with claim 3 further comprising a compressor for supplying compressed air to the combustor and to the cold air supply.

10. An auxiliary power unit in accordance with claim 5 further comprising a compressor for supplying compressed air to the combustor and to the cold air supply.

[4] Col. 2, ll. 69-75. The British patent discloses a means and method for reducing aircraft noise by positioning a baffle between the engine and fuselage such that relatively cold ambient air passes between the exhaust stream and the baffle, thereby redirecting noise from the exhaust stream into the baffle.

[7] Napier argues that the reference to APUs in the preamble of claim 1, which is incorporated into the other claims through their dependency, is a limitation. We do not need to address this issue since we conclude that this difference does not save the claims from rejection under section 103.

[8] Col. 6, ll. 56-57.

[9] Napier has not separately argued the patentability of claim 3.

obvious, is affirmed.

AFFIRMED

U.S. Court of Appeals
Federal Circuit

Ray v. Lehman

No. 94-1236

Decided May 17, 1995

PATENTS

1. Practice and procedure in Patent and Trademark Office — Fees (§110.03)

Showing of unavoidable delay required by Patent and Trademark Office for acceptance of late payment of maintenance fee under 35 USC 41(c)(1) is not inconsistent with unavoidable delay standard for revival of abandoned application under 35 USC 133, since under both statutes, PTO requires proof that party exercised due care of reasonably prudent person, and since 37 CFR 1.378(b)(3), which sets forth manner in which party must prove such reasonable prudence, does not impose additional requirements.

2. Practice and procedure in Patent and Trademark Office — Fees (§110.03)

Patentee whose patent expired for nonpayment of maintenance fee required by 35 USC 41(b) clearly received notice mandated by due process, since Patent and Trademark Office provided notice of fees due on inside cover of patent document in patentee's possession, and also mailed reminder letter to patentee's designated legal representative; patentee's contention that he did not read patent, and that notice to his legal representative was sent to "obsolete" address, does not show that delay in paying maintenance fee was unavoidable within meaning of 35 USC 41(c)(1), especially in view of patentee's failure to provide his current address to either legal representative or PTO.

Appeal from the U.S. District Court for the District of Columbia, Pratt, J.

Action by Ralph D. Ray against Bruce Lehman, commissioner of patents and trademarks, seeking injunction reinstating patent following its expiration for failure to pay maintenance fee. From entry of summary judgment upholding refusal of Patent and Trademark Office to reinstate patent, plaintiff appeals. Affirmed.

Charles E. Bruzga, New York, N.Y., for appellant.

Richard Torczon, assistant solicitor, PTO, Albin F. Drost and Nancy J. Linck, solicitor, for appellee.

Before Rich, Plager, and Lourie, circuit judges.

Rich, J.

Ralph D. Ray (Ray) appeals the January 25, 1994 decision of the United States District Court for the District of Columbia granting the Patent and Trademark Office (PTO) Commissioner's motion for summary judgment affirming the PTO's denial of Ray's petition to reinstate his patent for failure to pay a maintenance fee. We affirm.

I. *Background*

Ray, with the assistance of a patent agent, Tom Sherrard (Sherrard), filed a patent application on July 8, 1983 which issued as U.S. Patent No. 4,466,797 ('797 patent) on August 21, 1984. Upon issuance of the '797 patent, in section 1A of the issue fee transmittal notice, Sherrard listed his own address for receipt of further correspondence from the PTO.

The PTO mailed a letter to Sherrard on March 22, 1988 reminding him that the first maintenance fee, required 3 years and 6 months after issuance of the '797 patent, was soon due. Under 35 U.S.C. § 41(b) (1988), a grace period of 6 months is provided to pay each maintenance fee. Therefore, the first maintenance fee for the '797 patent was due at the latest, 4 years after the issue date, August 21, 1988. Sherrard, who had retired from practice sometime after the '797 patent issued, forwarded the PTO's letter to the last address he had for Ray. The letter was returned to Sherrard as undeliverable. Sherrard did not pay the maintenance fee and the '797 patent expired.

Ray did not discover that the '797 patent expired until March 1990. Soon thereafter he attempted *pro se* to have the patent reinstated by filing a paper entitled "Petition to Accept Delayed Payment of Maintenance Fee in an Expired Patent 37 CFR 1.378" (the petition) in the PTO. In the petition, Ray asserted that he had "no knowledge whatsoever that any maintenance fee would be due in connection" with the '797 patent. Ray maintained that Sherrard had not told him of the maintenance fee requirement and that he "knew of no reason to keep in contact with Mr. Sherrard after his retirement."

In a decision dated June 26, 1990, the PTO dismissed the petition stating that Ray's alleged lack of knowledge of the requirement to pay the maintenance fee was inadequate to establish unavoidable delay. Ray, assisted by a second patent agent, William F. Frank, filed a petition for reconsideration of the PTO's decision on August 27, 1990. The petition for reconsideration was also denied by the PTO. In its reconsideration opinion, the PTO reiterated that Ray's lack of knowledge of the need to pay maintenance fees does not constitute unavoidable delay. The PTO also opined, in response to Ray's argument that Sherrard failed to apprise him of the necessity to pay maintenance fees, that "the PTO is not the proper forum for resolving disputes between patentees and their representatives." The PTO also stated that there was no need to determine the obligation between Ray and Sherrard because "the record fails to show that either took adequate steps to ensure timely payment of the maintenance fee." Ray then sought injunctive relief against the Commissioner in the D.C. District Court.

The district court affirmed by summary judgment the Commissioner's decision, finding Ray's arguments precluded by *Rydeen v. Quigg*, 748 F.Supp. 900, 16 USPQ2d 1876 (D.D.C. 1990), *aff'd* 937 F.2d 623 (Fed. Cir. 1991) (table), *cert. denied*, 502 U.S. 1075 (1992). Ray appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1) (1988).

II. *Standard of Review*

Summary judgment is appropriate where there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c); *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1576-77, 12 USPQ2d 1382, 1383 (Fed. Cir. 1989). We review the district court's grant of summary judgment "to determine whether any genuine issues of material fact are in dispute, and whether any errors of law were made." *Haynes Int'l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1576, 28 USPQ2d 1652, 1654 (Fed. Cir. 1993). Agency action may be set aside if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A) (1988). The scope of review under the arbitrary and capricious standard is narrow and a court is not to substitute its judgment for that of the agency. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

III. *Maintenance Fees*

Under 35 U.S.C. § 41(b), enacted in 1980, maintenance fees are due on issued patents at certain times during their maximum terms. Failure to pay a maintenance fee within six months of one of the required times results in expiration of the patent. Under 35 U.S.C. § 41(c) (1988), the Commissioner can accept late payment of a maintenance fee if the delay is shown to be unavoidable.[1] The Commissioner may not, however, exercise his discretion in determining what qualifies as unavoidable delay in a way that "contradicts the purposes of the statute or is completely contrary to reason." *Rydeen*, 748 F. Supp. at 904, 16 USPQ2d at 1880, (citing *Commissariat a L'Energie Atomique v. Watson*, 274 F.2d 594, 596-97, 124 USPQ 126, 128 (D.C. Cir. 1960)).

Pursuant to PTO regulations, a delay in paying a maintenance fee can be shown to be unavoidable if "reasonable care was taken to ensure that the maintenance fee would be paid timely." Additionally, the patentee "must enumerate the steps taken to ensure timely payment of the maintenance fee, the date and the manner in which the patentee became aware of the expiration of the patent, and the steps taken to file the petition promptly." 37 C.F.R. § 1.378(b)(3) (1984).

In considering whether to reinstate a patent for failure to pay a maintenance fee the PTO has stated that:

> A late maintenance fee is considered under the same standard as that for reviving an abandoned application under 35 USC 133 because 35 USC 41(c)(1) uses the identical language, i.e.[,] unavoidable delay. Decisions on reviving abandoned applications have adopted the "reasonably prudent person" standard. . . . In addition, decisions on revival are made on a "case-by-case basis, taking all the facts and circumstances into account."

In re Patent No. 4,461,759, 16 USPQ2d 1883, 1884 (Dep. Ass't Comm'r Pat. 1990) (quoting *Smith v. Mossinghoff*, 671 F.2d 533, 538, 213 USPQ 977, 982 (D.C. Cir. 1982)). Thus, in determining whether a delay in paying a maintenance fee was unavoidable, one looks to whether the party responsible for payment of the maintenance fee exercised the due care of a reasonably prudent person. *See Douglas v. Manbeck*, 21 USPQ2d 1697, 1700 (E.D. Pa. 1991), *aff'd* 24 F.3d 1318 [24 USPQ2d 1318] (Fed. Cir. 1992) (table); *In re Mattullath*, 38 App. D.C. 497, 514-15 (D.C. Cir. 1912).

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[1] Section 41(c) has since been amended to allow patentees to reinstate expired patents under a lower unintentional standard. This standard is not applicable to reinstatement of Ray's patent.

was a type of antitrust violation; jurisdiction of the district court not an issue raised).

[5] The sole question raised by the present complaint is whether the involved contracts should be interpreted as having conveyed title to two then nonexistent U.S. patent applications. No Act of Congress relating to patents within the meaning of 28 U.S.C. §1338(a) spells out criteria for determining what does or does not constitute a conveyance by contract. The district court committed no error, therefore, in dismissing the complaint for lack of jurisdiction.

(2) Other Bases

BSI argues that 28 U.S.C. §1331 and 35 U.S.C. §261 provide bases for jurisdiction "independently" of 28 U.S.C. §1338(a). The short answer is that if those other bases for the district court's jurisdiction exist in this case they are irrelevant in this court.

[6] Our jurisdiction to decide appeals from district courts is nonexistent when the jurisdiction of the district was not based at all on either 28 U.S.C. §1338(a) or 28 U.S.C. §1346. Federal Courts Improvement Act of 1982, 28 U.S.C. §1295(a)(2). Had Rasmussen moved for dismissal of this appeal for lack of jurisdiction in this court, that motion would have been granted, for we do have jurisdiction to determine whether the district court had jurisdiction under §1338(a), and thus whether this court has jurisdiction to decide the appeal. C.R. Bard, Inc. v. Schwartz, 716 F.2d 874, 877, 219 USPQ 197, 200 (Fed. Cir. 1983); Montgomery Ward & Co. v. Zenith Radio Corp., 673 F.2d 1254, 1258 n. 7 (CCPA 1982). Thus, our determination that the order appealed from was proper, because the district court lacked jurisdiction under §1338(a), requires dismissal of the appeal for lack of jurisdiction in this court.

Though we lack jurisdiction in this case because no jurisdiction in the district court was based on §1338(a), we include the following short reference to BSI's assertions to provide guidance to others who may seek to bring appeals of this type to this court, and to illustrate the foundation for reference to BSI's arguments in section (4) of this opinion.

BSI notes the presence of "laws" in §1331 and says the present action raises matters of federal concern and relationship. The fact is that the outcome of the present contract action, however it may be decided in a state court or under state law, is a matter of monumental disinterest to the federal government. Whether the contracts are interpreted in favor of BSI or Rasmussen is a matter of no federal concern or relationship whatsoever.

[7] Nothing in §261 itself creates a right of action in the federal courts seeking an interpretation of contracts. BSI's repeated mislabling of this action as one for "declaration of the validity of an assignment" cannot make §261 a basis for federal jurisdiction over this contract suit.

Assuming the truth of what it wishes were true but is not, BSI presents a number of totally irrelevant, question-begging, and conflicting considerations: treaties allow foreign nationals to obtain and assign U.S. patent rights; 35 U.S.C. §102 refers to a "person" without specifying nationality; the Constitution does not specify nationality of "authors and inventors"; all U. S. citizens are affected by an "assignment" of an application; a state court cannot decide "a federal right created by federal statute"; Rasmussen and BSI's parent corporation are foreign entities; patents are grants of federal rights.

(3) Mootness

BSI contends in its main brief that, because of the substitution, diversity jurisdiction now exists and this appeal has thereby been rendered "moot" or "probably moot". BSI did not, however, move to withdraw the appeal. Rasmussen agreed that the appeal is moot in view of diversity. BSI's reply brief says only that the appeal is not procedurally frivolous for mootness because Rasmussen has not "agreed"to a remand.

[8,9] Beghin-Say assigned whatever rights it may have in the two U. S. applications to BSI *after* the district court entered the order appealed from in this case and BSI moved for substitution *after* this appeal was filed. Those actions cannot establish diversity jurisdiction in the district court under §1332(a)(2) when the complaint was filed. That determination must be made as of the filing date of a complaint, or of an amended complaint, and cannot be changed by action of a party thereafter. Albert v. Kevex Corp., Nos. 83-720/781, 221 USPQ 202 (Fed. Cir. March 6, 1984). It is in any event a matter for decision by the district court in the first instance.[4] The creation of diversity jurisdiction in BSI's Delaware suite, supra, note 3, if that occurred, could not work a retroactive creation of diversity jurisdiction in the Virginina court

[4] Our grant of BSI's motion for substitution on appeal did not constitute such substitution before the district court. If BSI persists in its apparent desire to conduct two identical suits in two busy federal courts, it may file a new complaint in the Virginia court, whereupon one of the duplicative actions will, presumably, be stayed or transferred.

that issued the order here appealed from. Nor does substitution of BSI on appeal affect the sole issue before us, i.e., whether the Virginia district court erred in holding that it had no jurisdiction under §1338(a) over the action as filed. Nor would we have jurisdiction over an appeal from a final decision of a district court in a case in which that court's jurisdiction was based solely on diversity of citizenship.

As above indicated, we do have jurisdiction to decide our own jurisdiction and that of the district court on which our own depends. The appealed order was based on lack of jurisdiction over this type of suit under §1338(a). BSI questions the correctness of that order. Our decision disposes of that question and the appeal is not therefore moot.

(4) Costs

Rasmussen requests costs, attorney fees, and damages under Rule 38, Fed. R. App. P., asserting that this appeal is frivolous on its merits and in its procedural foundation and that it was filed for the sole purpose of unnecessarily and needlessly prolonging the ongoing conflict between the parties.

This court has noted that the filing of and proceeding with a clearly frivolous appeal constitutes an unnecessary and unjustifiable burden on overcrowded courts, diminishes the opportunity for careful contemplative consideration of non-frivolous appeals, and delays access to the courts of persons having truly deserving causes. Asberry v. United States Postal Service, 692 F.2d 1378, 215 USPQ 921 (Fed. Cir. 1982); Connell v. Sears Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983). Asberry was called to counsel's attention when this appeal was filed.

There are, however, differences between excessive advocacy and inexperience on the one hand and clear frivolity on the other. True, it is difficult to conceive of any useful or non-frivolous purpose that could have reasonably motivated the continuation of this appeal, an appeal that does border the ragged edge of frivolity. First, BSI has a suit pending in Delaware, where it says diversity jurisdiction exists, and where a judgment on the merits may be obtained from which an appeal will lie to the United States Court of Appeals for the Third Circuit.[5] Second, the result of a reversal here, if there had been a remote chance of achieving it, would have been merely the pendency of BSI's two identical suits in two different federal district courts. Third, BSI continued to prosecute the appeal after the bankruptcy of its arguments had been pointed out in Rasmussen's brief.

Though a total absence of merit in BSI's arguments may, as Rasmussen suggests, be viewed as evidence of frivolousness, it may in this case also be viewed as the product of other factors, as indicated above. That consideration argues against Rasmussen's demand for all sanctions possible under Rule 38. Another sanction-limiting factor is an opportunity provided for guidance to the parties. BSI may now, for example, deem advisable the removal of §1338(a) as a claimed basis for jurisdiction in the district court for Delaware, and may also recognize that the sole basis for jurisdiction over this contract suit in any federal district court is diversity of citizenship.

We decline therefore to grant Rasmussen's request for a total sanction, including attorney fees and damages. We do order that BSI shall reimburse Rasmussen for his costs on this appeal.

Decision

Because no jurisdiction of the district court was here based on §1338(a), the appeal must be dismissed for lack of jurisdiction in this court.

Costs to Rasmussen.

Dismissed

Friedman, Circuit Judge, concurs in the result.

[5] If trial of this action in either district court proceeds to conclusion, the court will decide the case in accordance with the law of contracts, which may be that of the appropriate state, see In Re Snap On Tools, 720 F.2d 654, 220 USPQ 8 (Fed. Cir. 1983), or, perhaps, that of France.

Court of Appeals, Federal Circuit

In re Gordon et al.

No. 83-1281

Decided May 10, 1984

PATENTS

1. Patentability — Anticipation — Modifying references (§51.217)

Question is not whether patentable distinction is created by viewing prior art apparatus

from one direction and claimed apparatus from another, but whether it would have been obvious from fair reading of prior art reference as whole to turn prior art apparatus upside down; mere fact that prior art could be modified by turning apparatus upside down does not make modification obvious unless prior art suggested desirability of modification.

Particular patents — Blood Filters

Gordon and Sutherland, Blood Filter Assembly, Rejection of claims 1-3 and 5-7 reversed.

Application for patent of Lucas S. Gordon and Karl M. Sutherland, Serial No. 124,312, filed Feb. 25, 1980. From decision rejecting claims 1-3 and 5-7, applicants appeal. Reversed.

James W. Geriak, Los Angeles, Calif. (Bradford J. Duft, Los Angeles, Calif., on the brief) for appellants.

John F. Pitrelli (Joseph F. Nakamura and John W. Dewhurst, on the brief) for Patent and Trademark Office.

Before Bennett and Miller, Circuit Judges and Skelton, Senior Circuit Judge.

Miller, Circuit Judge.

This appeal is from the decision of the United States Patent and Trademark Office ("PTO") Board of Appeals ("board") affirming the examiner's rejection of appellants' claims [1] 1-3 and 5-7 as unpatentable under 35 U.S.C. §103. We reverse.

The Invention

Appellants claim a "blood filter assembly" used during surgery and other medical procedures involving the handling of blood to remove clots, bone debris, tissue, or other foreign materials from blood before it is returned to a patient's body. Unlike blood filter assemblies widely used in the prior art, the device of the present invention permits both entry of the blood into, and ultimate discharge of the blood out of, the *bottom* end of the filter assembly, as shown below.[2]

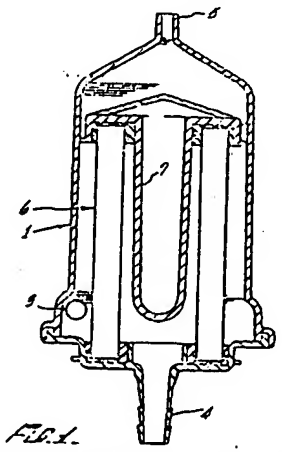


Fig. 1.

The blood filter assembly comprises a shell 1 provided with blood inlet 3 and blood outlet 4. Between the blood inlet and the blood outlet is filter medium 6 positioned within the filter medium core 7.

The location of blood inlet 3 is such that the incoming blood is directed along a spirally upward path by the inner wall of the shell. Further, the location of the blood inlet at the bottom end of the filter assembly facilitates the removal of gas bubbles by allowing them to rise upwardly out of the blood. The gas bubbles so removed are released from the blood filter assembly by means of a gas vent 5 located in the region of the top end of the assembly.

Independent claim 1, from which the other appealed claims depend, is illustrative:

> Blood filter assembly comprising:
>
> a. a shell having a first top end and a second bottom end,
>
> b. a blood inlet located in the region of said bottom end and opening into said bottom end,
>
> c. a blood outlet located in the region of said bottom end,
>
> d. a gas vent located in the region of said top end, and
>
> e. a blood filter medium located between said blood inlet and said blood outlet,
>
> said blood inlet being located and configured in a manner capable of directing incoming blood in a generally spiral path within said shell.

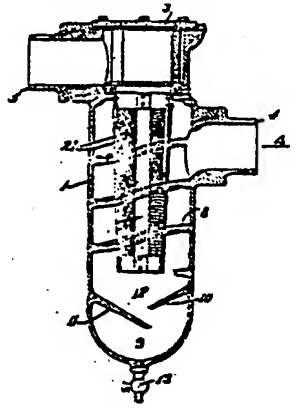
Claims 2, 3, and 5-7 further define the shape of the shell, the shape of the filter medium, and the nature of the material used as the filter medium.

[1] In application Serial No. 124,312, filed February 25, 1980, for a "Blood Filter."

[2] Extraneous numbers have been removed from this and the subsequent drawing for clarification.

Prior Art

The sole reference relied upon by the board is United States Patent No. 1,175,948, issued March 21, 1916, to French. French discloses a liquid strainer for removing dirt and water from gasoline and other light oils. As shown below, the inlet 4 and outlet 5 of the French device are both at the *top* end of the device.



A continuous helical tooth or thread 8 is formed integral with the inner wall of shell 1 and imparts to the incoming liquid a whirling motion, which gives the liquid a scouring action to help clean the surface of a metal screen filter 21 and guides unwanted dirt and water downwardly into a pocket 9 in the bottom of the shell. A pair of shelves 10 and 11, projecting inwardly and downwardly from the inner wall of the shell, further assists the entrance of dirt and water into the pocket 9 and prevents their being drawn back into the main chamber 12. The reference expressly states, "gravity assists in the separation of heavier oils or water." A pet-cock 13, projecting vertically downward from the bottom of the pocket is used to remove the collected dirt and water periodically. The top of the liquid strainer is completely closed by gland 3 except for the inlet and outlet openings.

Board Opinion

The board held that the appealed claims were drawn to an apparatus which "would have at least been rendered prima facie obvious to one of ordinary skill in the art by the apparatus disclosed in French." The board's reasoning was that it would have been obvious to turn the French device upside down to have both the inlet and outlet at the bottom, rather than at the top; and to employ French's "pet-cock" as the claimed "gas vent." In the board's opinion, no patentable distinction was created by viewing French's apparatus from one direction and the claimed apparatus from another.

ANALYSIS

[1] We are persuaded that the board erred in its conclusion of prima facie obviousness. The question is not whether a patentable distinction is created by viewing a prior art apparatus from one direction and a claimed apparatus from another, but, rather, whether it would have been obvious from a fair reading of the prior art reference as a whole to turn the prior art apparatus upside down. French teaches a liquid strainer which relies, at least in part, upon the assistance of gravity to separate undesired dirt and water from gasoline and other light oils. Therefore, it is not seen that French would have provided any motivation to one of ordinary skill in the art to employ the French apparatus in an upside down orientation. The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification. See Carl Schenck, A.G. v. Nortron Corp., 713 F.2d 782, 787, 218 USPQ 698, 702 (Fed. Cir. 1983), and In re Sernaker, 702 F.2d 989, 995-96, 217 USPQ 1, 6-7 (Fed. Cir. 1983), both citing In re Imperato, 486 F.2d 585, 587, 179 USPQ 730, 732 (CCPA 1973).

Indeed, if the French apparatus were turned upside down, it would be rendered inoperable for its intended purpose. The gasoline to be filtered would be trapped in pocket 9, and the water French seeks to separate would flow freely out of the outlet 5. Further, unwanted dirt would build up in the space between the wall of shell 1 and screen 21, so that, in time, screen 21 would become clogged unless a drain valve, such as pet-cock 13, were re-introduced at the new "bottom" of the apparatus. See In re Schulpen, 390 F.2d 1009, 1013, 157 USPQ 52, 55 (CCPA 1968). In effect, French teaches away from the board's proposed modification.

Because the PTO has failed to establish a prima facie case of obviousness, the rejection of claims 1-3 and 5-7 as unpatentable under 35 U.S.C. §103 must be *reversed*.[1]

Reversed

[1] Because our holding that the PTO has failed to establish a prima facie case is dispositive, it is unnecessary to reach other arguments raised by appellants.

ted by Trademark Rule 2.87(c). In fact, permitting a Request to Divide at this stage of the application process will permit registration of the majority of the goods in the above-identified application and, as represented by Petitioner and the potential opposer, ultimately may even avoid the need for an opposition.

DECISION

Accordingly, the Petition is granted. The application filed will be forwarded to the ITU/Divisional Unit for consideration of the Request to Divide.[1]

[1] This decision does not stay the time for the potential opposer to file further Requests for Extension of Time to File a Notice of Opposition. Thus, the potential opposer should continue to file its extension requests while the Request to Divide is pending.

U.S. Court of Appeals
Federal Circuit

C.R. Bard Inc. v. M3 Systems Inc.

No. 96-1165

Decided September 30, 1998

PATENTS

1. Patentability/Validity — Anticipation — Identity of elements (§115.0704)

Verdict that patent claims for biopsy needles are invalid for anticipation is unsupported by substantial evidence, since claimed needles differ from prior art needles in flange structure for coupling needles to biopsy "gun" for movement both toward and away from housing, which is structure that limits all claims, as well as in additional limitation in two claims requiring slit in stylet head flange.

2. Patentability/Validity — Obviousness — Combining references (§115.0905)

Verdict that invention of patent for biopsy needles was obvious in view of prior art is unsupported by evidence, since no prior art provided suggestion or motivation to make needle assembly with structure shown and claimed in patent, and since absent this essential evidentiary component of obviousness holding, verdict of invalidity on that ground cannot stand as matter of law.

3. Practice and procedure in Patent and Trademark Office — Certificate of correction — Correction of named inventor (§110.1205)

Practice and procedure in Patent and Trademark Office — Reissue — In general (§110.1301)

Evidence does not support verdict holding patent invalid on ground that correction of inventorship was improperly made by reissue, since prosecution history shows that error in inventorship was described in reissue application and corrected by appropriate petition, filed and processed while reissue application was pending, since petition to correct inventorship may be filed during reissue proceedings, and since error in inventorship was corrected before reissue patent was granted.

4. Practice and procedure in Patent and Trademark Office — Reissue — In general (§110.1301)

Primary purpose of reissue statute is to enable addition of claims to subject matter not claimed in original patent, and inventor's failure to appreciate scope of invention at time of original patent grant, and thus initial intent not to claim omitted subject matter, is remediable error.

5. Patentability/Validity — Specification — Written description (§115.1103)

Claims for biopsy gun requiring "sequential energizing" of biopsy needles cannot be held invalid on ground that written description does not describe how to obtain elimination of all overlap of needle movement, since claims must be construed in accordance with rest of specification, not contrary to it, since specification illustrates sequential energizing of needles as having some overlap in movement, since no usage or exemplification of sequential movement in patent requires elimination of all overlap, and since correct interpretation of claims thus allows for slight overlap in needle movement; it is incorrect to construe claims in manner contrary to specification and then hold claims invalid because they are unsupported by written description.

6. Patentability/Validity — Obviousness — Combining references (§115.0905)

Invention of patent for biopsy gun providing mechanical "sequential energizing" or cocking of its two biopsy needles was not obvious over combination of plaintiff's prior biopsy guns, which allowed for sequential manual cocking and mechanical, simultaneous cocking respectively, since no cited reference suggests structure employed in gun of patent, or mechanical sequential energizing, or other features of claimed gun.

7. Infringement — Literal infringement (§120.05)

Patent construction — Claims — Means (§125.1307)

Means plus function claims of patent for biopsy gun providing mechanical "sequential energizing" or cocking of its two biopsy needles are not infringed by accused devices, even though accused guns also perform function of sequential energizing, since claimed structure employing rotational tensioning as energizing means is substantially different from energizing structure in accused gun; existence of other claims in patent which specifically state structure does not warrant finding that "means" claims at issue are not limited to structure in specification, since means-plus-function limitation is not made open-ended by presence of other claims specifically claiming disclosed structure which underlies means clause or equivalent of that structure.

8. Practice and procedure in Patent and Trademark Office — Prosecution — Duty of candor — Materiality (§110.0903.04)

There is no presumption that information not filed by patent applicant was material simply because patentability ensued, since, to establish culpability for fraud in procurement of patent, any omission must be of fact material to patentability, and it must be deliberate misrepresentation, whether by omission or misstatement, that was intended to and did mislead examiner into taking favorable action that would not otherwise have been taken; intent to deceive or mislead must be established by clear and convincing evidence, and deceptive intent is not inferred simply because information was in existence that was not presented to examiner.

9. Patent misuse — Federal antitrust issues (§140.07)

There is no presumption that patent-based right to exclude necessarily establishes market power in antitrust terms, since virtually unlimited variety and scope of patented inventions and market situations militate against per se rules; unless patent had been obtained by fraud such that market position had been gained illegally, patent right to exclude does not constitute monopoly power prohibited by Sherman Act.

10. Patent misuse — Improper procurement and enforcement (§140.03)

Patent misuse — Federal antitrust issues (§140.07)

Judgment finding antitrust violation cannot be sustained on ground that patentee used fraudulently obtained patent to restrain competition, since establishing liability on such ground requires showing that patent was fraudulently procured, that patentee's related commercial activity was coupled with violations of Sherman Act's Section 2, and that patentee had specific intent to monopolize, engaged in anti-competitive conduct, and had dangerous probability of success, and since, in view of incorrect verdicts of fraud in procurement of patents in suit, judgment cannot be sustained as matter of law.

11. Patent misuse — Improper procurement and enforcement (§140.03)

Patent misuse — Federal antitrust issues (§140.07)

Law recognizes presumption, overcome only by affirmative evidence of bad faith, that assertion of duly granted patent is made in good faith, since, absent showing that lawsuit is objectively meritless, and that suit conceals attempt to interfere directly with competitor's business relationships, patentee must have right to enforcement of duly granted patent, unencumbered by punitive consequences should patent's validity or infringement not survive litigation; judgment finding antitrust violation in present case cannot be upheld on "sham" litigation grounds, since infringement defendant failed to present substantial evidence that litigation was objectively meritless and brought in bad faith.

12. Patent misuse — Improper procurement and enforcement (§140.03)

Judgment on verdicts finding patent misuse must be reversed, since there was no evidence that infringement plaintiff's competitive activities were either per se patent misuse or that they were not "reasonably within the patent grant," since conduct to which jury instruction on misuse generally referred, namely attempt to enforce patents against goods known not to be infringing, is not subject to collateral attack as new ground of "misuse," in that it is not patent misuse to bring suit to enforce patent rights not fraudulently obtained, and since verdicts thus are not supported by evidence or correct legal theory.

13. Patent misuse — Federal antitrust issues (§140.07)

Judgment on jury verdict finding antitrust violation based on patentee's modification of biopsy gun to prevent use of competing replacement needles is affirmed, since evidence was sufficient to support jury's specific finding that patentee enjoyed monopoly power in market for replacement needles, and its conclusion that patentee maintained its monopoly position by exclusionary conduct; although patentee contended at trial that it modified gun in order to make it easier to load and unload, there was substantial evidence that patentee's real reasons for modification were to raise cost of entry to potential replacement needle makers, to make doctors apprehensive about using competitors' needles, and to preclude use of "copycat" needles.

Particular patents — General and mechanical — Biopsy guns

4,944,308, Akerfeldt, tissue sampling device, judgment of invalidity reversed; judgment of non-infringement affirmed.

Re. 34,056 (of 4,699,154), Lindgren and Akerfeldt, tissue sampling device, judgment of invalidity affirmed; judgment of non-infringement vacated.

Appeal from the U.S. District Court for the Northern District of Illinois, Bucklo, J.

Action by C.R. Bard Inc. against M3 Systems Inc. for patent infringement, in which defendant asserted claims for fraud, violation of antitrust laws, and patent misuse. From judgment for defendant on all issues, plaintiff appeals. Affirmed in part, reversed in part, vacated in part, and remanded.

Opinion for the court by Judge Newman except for Part I.E (on-sale issue) and Part VI.C (attempt to monopolize). Judge Bryson does not join Parts I.A-D of Judge Newman's opinion. The district court's judgment concerning the on-sale bar is affirmed in separate opinions by Chief Judge Mayer and Judge Bryson. The district court's judgment concerning the attempt to monopolize issue is reversed in part by Judge Newman's opinion (Parts VI.A-B), which Chief Judge Mayer and Judge Bryson join, and affirmed in part by Judge Bryson's opinion (Part II), which Chief Judge Meyer joins. Judge Newman dissents with respect to the on-sale bar and attempt to monopolize issues.

Related decisions: 34 USPQ2d 1474; 32 USPQ2d 1535.

John F. Sweeney, Harry C. Marcus, Desiree M. Stahl, Walter G. Hanchuk, Warren H. Rotert, and Steven F. Meyer, of Morgan & Finnegan, New York, N.Y., for plaintiff-appellant.

Richard D. Harris, Max Shaftal, Jordan A. Sigale, and Jovan N. Jovanovic, of Dick & Harris, Chicago, Ill.; Paul E. Slater and Greg Shinall, of Sperling, Slater & Spitz, Chicago, for defendant-appellee.

Before Mayer, chief judge, and Newman and Bryson, circuit judges.

Newman, J.

In suit are United States Patent No. 4,944,308 issued July 31, 1990 (the '308 patent) and United States Reissue Patent No. RE 34,056 issued September 8, 1992 (the '056 patent), both entitled "Tissue Sampling Device." These patents originated with the work of Dr. Per Gunner Lindgren, a physician in Sweden, and are now owned by appellant C.R. Bard, Inc.

The patented inventions are devices for taking samples of body tissue for biopsy purposes, wherein a biopsy needle firing device or "gun" mechanically injects a biopsy needle assembly into the core body tissue. These devices are described as improving the speed, accuracy, ease, and patient comfort of tissue sampling, compared with manually inserted biopsy needles. They are said to be particularly advantageous for sampling small or movable lesions and fibrous or firm tissues, because the rapidly and firmly fired needles can penetrate even fibrotic lesions before the lesions can slip aside. The patented guns and needles have achieved commercial success.

Bard sued M3 Systems in August 1993 in the United States District Court for the Northern District of Illinois,[1] asserting that M3's ProMag biopsy gun and ACN/SACN biopsy needle assemblies infringed the '308 and '056 patents, respectively. M3 raised the defenses that the patents are invalid on several grounds and are not infringed, and also charged Bard with fraud, antitrust law violation, and patent misuse. The jury rendered special verdicts in favor of M3 on every issue, finding the '056 patent invalid and not infringed on each of the grounds of anticipation, obviousness, violation of a section 102(b) bar, incorrect naming of inventors, and non-compliance with reissue requirements; and finding the '308 patent invalid and not infringed on grounds of anticipation, obviousness, and insufficient written description. The jury also found that Bard perpetrated fraud in the Patent and Trademark Office (PTO) in obtaining both patents, that Bard misused both patents, and that Bard violated antitrust law, awarding $1.5 million in antitrust damages, trebled by the district court.

The district court denied all post-trial motions. This appeal followed. This court affirms the judgment of invalidity of the '056 patent and vacates the judgment of non-infringement of the '056 patent. The judgment of invalidity of the '308 patent is reversed and the judgment of noninfringement is affirmed. The judgments of misuse and fraud are reversed. The judgment of antitrust violation on the ground of attempt to monopolize is affirmed, but the antitrust damages award is vacated, for redetermination upon remand.

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[1] *C.R. Bard, Inc. v. M3 Sys., Inc.*, No. 93-CV-4788 (N.D. Ill. Oct. 2 & Dec. 20, 1995) (orders).

THE PATENTED INVENTIONS

The First Generation Device — The PCT Patent Application

In 1981 Dr. Lindgren, working in Sweden with Jan Allard, an engineer, designed and constructed the first of several successively improved mechanical biopsy guns. This "first generation" gun was designed to fire a commercially available biopsy needle assembly made by the Baxter Travenol Company, having the brand name "Tru-Cut." The Tru-Cut is a double needle consisting of a hollow outer needle called the cannula and an inner needle called the stylet. The stylet is solid except for a recess near its point. In the manual procedure for which the Tru-Cut was designed, the physician would first extend the stylet and insert the assembly into the body tissue, whereupon the tissue to be sampled would flow into the recess in the stylet; the physician would then push the cannula into the body tissue to surround the stylet and cut and trap the tissue sample in the recess.

This procedure required the physician to use both hands to manipulate the needles, while a second physician would hold and manipulate the ultrasound equipment that is usually required to view the interior of the body and direct insertion of the needles. Dr. Lindgren sought to mechanize this procedure in order to improve the speed and accuracy of insertion, to reduce human error, and to permit a physician to perform the biopsy without assistance by providing a sampling device that can be operated with one hand while the other hand holds the ultrasound apparatus.

The first generation gun is a box-like structure fitted with two spring-loaded drivers associated with slots that are configured to hold the cannula and stylet of the Tru-Cut needle assembly. To use this gun the physician must first "cock" each of the spring-loaded drivers. This cocking action, as it was often called at trial, is referred to as pre-tensioning or energizing in the patent documents. Cocking is performed by hand or with a specially designed tool described as a miniature crowbar. After the drivers are cocked, the stylet and cannula are placed in the appropriate slots and the gun housing is closed. The gun is then aimed at the target tissue and a trigger mechanism releases the stylet and cannula in rapid sequence. The needles are then manually retrieved.

Dr. Lindgren and Mr. Allard filed a patent application on the first generation gun under the Patent Cooperation Treaty (PCT). The invention was assigned to Radiplast AB, a small Swedish company associated with Dr. Lindgren. The PCT application was filed on March 31, 1982 and was published on October 13, 1983. It is prior art to the United States patents in suit.

The Second Generation — The '056 Reissue Patent

Starting in 1984, Dr. Lindgren undertook to improve the gun so that it would not be necessary for the physician to cock the two drivers manually before installing the biopsy needles, a step described as awkward and inefficient. In 1985 Dr. Lindgren, working with Dan Åkerfeldt, an engineer, designed a mechanism whereby the drivers are cocked by external action after the needles are placed in the gun and the housing is closed. In this mechanism rods are attached to each of the spring-loaded drivers, extend out the back of the gun, and culminate in a ring or handle. By pulling the ring or handle the operator simultaneously cocks both drivers, moving the needles rearward. A trigger mechanism then fires the stylet and cannula, in rapid sequence, into the tissue to be sampled.

The Tru-Cut needles were not usable with the second generation gun, for their structure was such that they could not be moved rearward as well as propelled forward. New needles were designed with a modified hub and flange structure and a slit in the stylet flange to facilitate placement in the gun. Corresponding structural changes were made to the gun to accommodate the changes in the needles. Radiplast, as assignee, filed a patent application in Sweden on February 19, 1986. The United States application was filed on July 30, 1986, naming Dr. Lindgren as the inventor. Corresponding United States Patent No. 4,699,154 (the '154 patent) was issued on October 13, 1987, with claims to the combination of the second generation gun and the new needle assembly. The '154 patent did not claim the needle assembly alone.

In 1989 Bard, having become Radiplast's distributor in 1987, acquired ownership of the Radiplast patents. Bard applied for reissue of the '154 patent in order to add claims to the needle assembly alone. This reissue patent issued on September 8, 1992, and is the '056 patent in suit. During the reissue proceeding Bard and Dr. Lindgren petitioned the PTO to correct the inventorship to include Dan Åkerfeldt. In addition, Bard described to the PTO various activities of Radiplast in the United States, as shall be discussed in connection with the on-sale issue.

The Third Generation Gun — The '308 Patent

Dan Åkerfeldt continued to work on improving these devices. He sought to make the gun easier to use, especially by inexperienced physicians. Because pulling the cocking ring required significant manual force to overcome the simultaneous resistance of both driver springs, he designed an external integrated cocking mechanism that energized the two springs sequentially, thereby requiring less force than did the simultaneous cocking mechanism of the second generation gun. The third generation gun also provided for separate rearward movement of the needles after the biopsy sample was taken, thereby facilitating removal of the tissue from the stylet. Radiplast applied for a United States patent on the third generation gun on November 14, 1988, naming Dan Åkerfeldt as inventor. The patent issued in 1990 and is the '308 patent in suit.

I

VALIDITY OF THE '056 REISSUE PATENT

Bard charged M3 Systems with infringement of claims 9-12 and 21-23 of the '056 patent. M3 had the burden of establishing invalidity by clear and convincing evidence at trial. *Carella v. Starlight Archery*, 804 F.2d 135, 138, 231 USPQ 644, 646 (Fed. Cir. 1986). On review, the appellate court must "decide for ourselves whether reasonable jurors viewing the evidence as a whole could have found the facts needed to support the verdict in light of the applicable law." *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1207, 23 USPQ2d 1284, 1288 (Fed. Cir. 1992). The appellant must establish that the jury's actual or inferred factual findings were not supported by substantial evidence, or that the found or inferred facts were not sufficient to support the conclusion, or that the law was incorrectly applied. *See, e.g., Applied Med. Resources Corp. v. United States Surgical Corp.*, 147 F.3d 1374, 1376, 47 USPQ2d 1289, 1290 (Fed. Cir. 1998); *D.M.I., Inc. v. Deere & Co.*, 802 F.2d 421, 425, 231 USPQ2d 276, 278 (Fed. Cir. 1986).

When a claim or defense can not be maintained or defeated without a favorable finding on a material issue, and there is not substantial evidence supporting that finding, the verdict can not stand and the court must render judgment as a matter of law. *See* Fed. R. Civ. P. 50; *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 251-52 (1986); *see generally Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 975, 34 USPQ2d 1321, 1326 (Fed. Cir. 1995) (in banc), *aff'd*, 517 U.S. 370, 38 USPQ2d 1461 (1996). The appellate court must determine whether on the evidence of record a jury might properly have returned a verdict in the non-movant's favor when the correct legal standard is applied. If not, the movant was entitled to have the question removed from the jury and decided as a matter of law.

We apply these principles to each of the grounds on which the jury rendered verdicts of invalidity of the asserted '056 claims. We direct our discussion of validity primarily to claim 21, for the claim is representative and M3 Systems' expert witnesses admitted infringement of claim 21 by M3's original ACN needles:

> 21. A biopsy needle for use with a tissue sampling device having a housing with a forward end, a first slide mounted for longitudinal motion within said housing, and a second slide mounted for longitudinal motion within said housing, said biopsy needle comprising:
>
> a hollow first needle having proximal and distal ends;
>
> a second needle extending through said hollow first needle and freely slidable therewithin, said second needle having proximal and distal ends;
>
> a first head mounted to said proximal end of said hollow first needle, said first head including first flange means associated therewith for coupling said hollow first needle to said first slide for longitudinal motion both toward and away from said forward end of said housing; and
>
> a second head mounted to said proximal end of said second needle, said second head including second flange means associated therewith for coupling said second needle to said second slide for longitudinal motion both toward and away from said forward end of said housing.

A. *Anticipation*

To meet the requirements of patentability a device must be new; that is, it must not have been previously known. Section 102(a) requires that the subject matter was not published anywhere, or known or used by others in the United States, before its invention by the patentee.[1] An invention that

[1] *§102.* A person shall be entitled to a pat[illegible] unless—
(a) the invention was known or u[illegible] in this country, or patented [illegible] printed publication in this or a [illegible]

does not meet the requirements of novelty in section 102(a) is said to be "anticipated."

When the defense of lack of novelty is based on a printed publication that is asserted to describe the same invention, a finding of anticipation requires that the publication describe all of the elements of the claims, arranged as in the patented device. *Shearing v. Iolab Corp.*, 975 F.2d 1541, 1544-45, 24 USPQ2d 1133, 1136 (Fed. Cir. 1992); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir 1989); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894, 221 USPQ 669, 673 (Fed. Cir. 1984). The jury found that all of the claims at issue were "fully anticipated by a single prior art reference." Bard states that no reference described the new biopsy needle assembly of the '056 patent, and that the closest prior art, which all agree is the Travenol Tru-Cut needle assembly, differs in material ways. M3 Systems states that the Tru-Cut (or a publication describing the Tru-Cut) anticipated the claimed needle assembly because the '056 claims, correctly construed, read on the Tru-Cut.

The district court declined to construe all of the claim terms that were placed in dispute, instructing the jury that "words in a claim are to be given their ordinary and accustomed meaning, unless it appears that the inventor intended to use them differently. . . . You may use the specification to interpret what the patentee meant by a word or phrase in a claim." The record shows that the court defined some terms and the parties explained their views to the jury. This procedure was not incorrect at the time this case was tried — for as the court observed, the question of the relative roles of judge and jury was then before the Supreme Court — and does not of itself warrant a new trial. On appellate review, however, we apply the principles of *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454-56, 46 USPQ2d 1169, 1172-75 (Fed. Cir. 1998) (in banc), and determine whether on the correct claim construction the jury verdict can stand. *See United States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568, 41 USPQ2d 1225, 1236 (Fed. Cir.) (reviewing whether the verdict reached was in accordance with correct claim construction), *cert. denied*, 118 S. Ct. 369 (1997).

1. *The Term "Freely Slidable"*

M3 Systems contends that the claim term "freely slidable" does not distinguish the '056 claims from the Tru-Cut needle assembly. The term "freely slidable" appears in the following claim clause:

> a second needle extending through said hollow first needle and freely slidable therewithin, . . .

Bard argues that the court should have construed "freely slidable" for the jury, and that correctly construed this term means that the needle slides freely in either direction. M3 responds that Bard improperly seeks to insert the limitation "totally" into the definition of "freely slidable" and that, correctly construed, "freely slidable" requires only sliding freely in the forward direction. M3 states that since the Tru-Cut is freely slidable in the forward direction, the claim reads on the prior art and is invalid for anticipation.

M3 Systems' proposed claim construction is not correct, and could not have reasonably been adopted. The specification leaves no uncertainty that the '056 needles are freely slidable in both directions, for that is a purpose of the new '056 needle structure. M3's proposed interpretation is unsupported by, and indeed is contrary to, the specification. *See Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 810 F.2d 1113, 1116, 1 USPQ2d 1563, 1566 (Fed. Cir. 1987) (claims are not interpreted "in a vacuum," but are read and understood in light of the specification of which they are a part). The jury's finding of anticipation can not be sustained if grounded on M3's interpretation of "freely slidable," for it was not disputed that the prior art Tru-Cut needles can not slide in both directions.

2. *The "Housing"*

M3 Systems argues that the preamble of the '056 claims refers only to the "housing" of the tissue sampling device, and that the lack of any preamble reference to an external automatic cocking mechanism invalidates the claims by anticipation because they fail to distinguish the gun of the preamble from the prior art first generation gun.

M3 Systems has incorrectly construed the claim preamble. A preamble may serve a variety of purposes, depending on its content. It may limit the scope of the claim, for example when patentability depends on limitations stated in the preamble, as in *In re Stencel*, 828 F.2d 751, 754, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987), or when the preamble contributes to the definition of the claimed invention, as in *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). In this case, however, the preamble simply states the intended use or purpose of the invention, as in *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 868, 228 USPQ 90, 94 (Fed. Cir. 1985). Such a preamble usually does not limit the scope of the claim unless the preamble provides antecedents for ensuing claim terms and limits the claim accordingly. In *Vaupel Textilmaschinen KG v. Meccanica Euro Italia S.P.A.*, 944 F.2d 870, 880, 20 USPQ2d 1045, 1053 (Fed. Cir. 1991), for example, the preamble described a "reference point" that provided guidance in understanding and construing the claim.

In the case at bar, the preamble of claim 21 recites the portion and structure of the gun housing into which the needles fit, and provides reference points in the gun that aid in defining the needles as set forth in the body of the claim. M3 Systems is incorrect in stating that the preamble must contain details of the integrated mechanical cocking structure, for the gun structure is not part of the separate claims to the needles. The question of anticipation of the '056 claims relates to the needles, not the gun. To the extent that the jury verdicts of anticipation may have been based on M3's incorrect construction of the preamble, they can not be sustained. On the correct construction of the preamble, it contributes no basis of invalidity on the ground of anticipation.

3. *The On-sale Bar and "Anticipation"*

M3 Systems defends these anticipation verdicts by arguing that the asserted claims are anticipated because they are subject to an on-sale bar. Although 35 U.S.C. §102(b) provides that an inventor's sales or offers of sale more than one year before the patent filing date may bar the grant of a valid patent,[1] the on-sale bar is an independent ground of invalidity based on the inventor's delay in entering into the patent system. Although the on-sale bar can arise from one's own invention, "anticipation" does not arise from sale of one's own invention. We discuss the on-sale issue *post*; however, this aspect is unrelated to the "anticipation" verdicts, was not part of the jury instruction on that issue, and is not based on correct law.

Conclusion

[1] In sum, M3 Systems directs us to no prior art or prior knowledge or use by others that constitutes substantial evidence of anticipation of the needles claimed in the '056 patent. M3's witnesses conceded that the '056 needles differ from the Tru-Cut in the flange structure for coupling to the gun for movement both toward and away from the housing, a structure that limits all claims, as well as in the additional limitation in claims 10 and 12 of a slit in the stylet head flange. It is not disputed that the Tru-Cut needle assembly lacks these elements. In view of these admitted differences between the '056 needles and the prior art, differences unambiguously stated in the '056 claims, the verdicts of anticipation are unsupported by substantial evidence. The judgment of invalidity on this ground is reversed.

B. *Obviousness*

Invalidity based on obviousness is a question of law based on underlying facts. *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966); *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1595-97 (Fed. Cir. 1987). The relevant facts relate to (1) the scope and content of the prior art, (2) the level of ordinary skill in the field of the invention, (3) the differences between the claimed invention and the prior art, and (4) any objective evidence of nonobviousness such as long felt need, commercial success, the failure of others, or copying. *Graham*, 383 U.S. at 17, 148 USPQ at 467; *see Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1270, 20 USPQ2d 1746, 1750-51 (Fed. Cir. 1991).

The ultimate determination of obviousness *vel non* is a legal conclusion. *See Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297 n.24, 227 USPQ 657, 667 n.24 (Fed. Cir. 1985). When a patent describes a new mechanical device that can be viewed as a new combination or arrangement of mechanical components, the legal conclusion of obviousness requires that there be some suggestion, motivation, or teaching in the prior art whereby the person of ordinary skill would have selected the components that the inventor selected and used them to make the new device. *See Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 21 F.3d 1068, 1072, 20 USPQ2d 1377, 1379 (Fed. Cir.

[1] *§102* A person shall be entitled to a patent unless—

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, . . . before the invention thereof by the applicant for patent, . . .

1993) ("When the patented invention is made by combining known components to achieve a new system, the prior art must provide a suggestion or motivation to make such a combination."); *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 934, 15 USPQ2d 1321, 1323 (Fed. Cir. 1990) (it is insufficient that prior art shows similar components, unless it also contains some teaching, suggestion, or incentive for arriving at the claimed structure). We review a jury verdict of obviousness to determine whether substantial evidence supports the factual findings predicate to the legal conclusion of obviousness and whether such findings can support the verdict, with appropriate consideration of the presumption of validity and the requirement that obviousness be proved by clear and convincing evidence; factual inferences are drawn and credibility determinations are accepted in favor of the verdict winner. *See Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1480, 44 USPQ2d 1181, 1183-84 (Fed. Cir. 1997); *Structural Rubber Prod. Co. v. Park Rubber Co.*, 749 F.2d 707, 718-19, 223 USPQ 1264, 1273 (Fed. Cir. 1984).

M3 Systems argued at trial that the patented needle assembly would have been obvious in light of the Tru-Cut needle assembly, and that the only differences arose from obvious adaptations to accommodate the new gun design and to provide the desired reverse movement of the needles. No other prior art was presented. The invention that was made, however, does not make itself obvious; that suggestion or teaching must come from the prior art. *See, e.g., Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051-52, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988) (it is impermissible to reconstruct the claimed invention from selected pieces of prior art absent some suggestion, teaching, or motivation in the prior art to do so); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985) (it is insufficient to select from the prior art the separate components of the inventor's combination, using the blueprint supplied by the inventor); *Fromsom v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1556, 225 USPQ 26, 31 (Fed. Cir. 1985) (the prior art must suggest to one of ordinary skill in the art the desirability of the claimed combination).

[2] No prior art provided a teaching or suggestion or motivation that a needle assembly should be made with the structure shown and claimed in the '056 patent. Absent this essential evidentiary component of an obviousness holding, as a matter of law the verdicts of invalidity on that ground can not stand. Consequently, the judgment of invalidity based on obviousness is reversed.

C. *Inventorship*

The jury rendered special verdicts of invalidity of the asserted '056 claims on the ground of incorrect inventorship. Inventorship is a question of law, applied to relevant facts. Findings of relevant fact are reviewed on the standard appropriate to the trier of fact, in this case for substantial evidence. *See Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 980, 41 USPQ2d 1782, 1786 (Fed. Cir.); *cert. denied*, 117 S. Ct. 2459 (1997). The application of law to the found or admitted facts is reviewed on appeal without deference to the trier of fact. *See Ethicon, Inc. v. United States Surgical Corp.*, 135 F.3d 1456, 1460, 45 USPQ2d 1545, 1547 (Fed. Cir. 1998); *Sewall v. Walters*, 21 F.3d 411, 415; 30 USPQ2d 1356, 1358 (Fed. Cir. 1994).

The "inventor," in patent law, is the person or persons who conceived the patented invention. *Collar Co. v. Van Dusen*, 90 U.S. (23 Wall.) 530, 563-64 (1874); *Burroughs Wellcome Co. v. Barr Lab., Inc.*, 40 F.3d 1223, 1227-18, 32 USPQ2d 1915, 1919 (Fed. Cir. 1994) ("Conception is the touchstone of inventorship.") Thus facts relevant to inventorship are those showing the conception of the invention, for others may provide services in perfecting the invention conceived by another without becoming an "inventor" by operation of law. *Id.*; *Agawam Co. v. Jordan*, 74 U.S. (7 Wall.) 583, 602-04 (1868); *Hess*, 106 F.3d at 980-81, 41 USPQ2d at 1786-87. As explained in *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 785 F.2d 613, 624, 225 USPQ 634, 641 (Fed. Cir. 1985), "an inventor may use the services, ideas, and aid of others in the process of perfecting his invention without losing his right to a patent."

An assertion of incorrect inventorship must be based on facts proved by clear and convincing, corroborated evidence. *Hess*, 106 F.3d at 980, 41 USPQ2d at 1786. The difficulty of determining legal inventorship has been recognized, *see Jamesbury Corp. v. United States*, 518 F.2d 1384, 1396, 183 USPQ 484, 489 (Ct. Cl. 1975) (inventorship is one of the most difficult issues in American patent law) and, to avoid inadvertent invalidity, 35 U.S.C. §256 permits correction of the designated inventorship of a patent when an error was made without deceptive intent:

> *§256* Whenever through error a person is named in an issued patent as the inventor, or through error an inventor is not named in an issued patent and such error arose without any deceptive intention on his part, the Commissioner may, on application of all the parties and assignees, with proof of the facts and such other requirements as may be imposed, issue a certificate correcting such error.

See Stark v. Advanced Magnetics, Inc., 119 F.3d 1551, 1556, 43 USPQ2d 1321, 1325 (Fed. Cir. 1997) (error in inventorship may be corrected at any time if no deceptive intent).

The '154 patent as filed in the United States had named Dr. Lindgren as sole inventor. In the course of the reissue proceeding Dr. Lindgren filed a petition in the PTO to add Dan Åkerfeldt as a joint inventor. Lindgren and Åkerfeldt each filed declarations explaining their roles in the invention and declaring that the omission in naming Åkerfeldt was due to differences between United States and Swedish patent law, and was not done with intent to deceive.

M3 Systems challenged the joint inventorship of Lindgren and Åkerfeldt, and also stated that neither one was an inventor of the '056 patent's needles, but that Alan Taylor, President of Hart Enterprises, the company Radiplast retained to manufacture its new needles in the United States, was the sole inventor. Although Mr. Taylor did not appear at the trial, he stated in a deposition that he was not an inventor, but that he suggested the slot in the stylet flange to cooperate with a guide pin in the gun and prevent rotation of the needle. He said he sketched his design for Mr. Engström, although such a sketch was not produced. M3 states that Mr. Taylor gave written notice of his claim in 1990, before the reissue application was filed, but the record citations in M3's brief do not direct us to such notice.

It has long been the rule that one who asserts "inventor" status must provide clear and convincing evidence of supporting facts, including corroborating evidence. *See Woodland Trust v. Flowertree Nursery, Inc.*, 148 F.3d 1368, 1371, 47 USPQ2d 1363, 1366 (Fed. Cir. 1998) (illustrating the historical distrust of uncorroborated oral testimony of prior invention and citing the "rule of reason" analysis of corroborating evidence in *Price v. Symsyk*, 988 F.2d 1187, 1194, 26 USPQ2d 1031, 1036 (Fed. Cir. 1993)). At the trial Mr. Engström disputed Mr. Taylor's statements, and the earliest depiction introduced of the flange with a slot was a Swedish document.

Alternatively, M3 Systems points to the design patents that were filed in the name of Åkerfeldt alone, as establishing that Dr. Lindgren was not a joint inventor of the needles with Åkerfeldt. Bard replies, and there is no dispute, that the design patents showed specific hub designs not shown in the utility patent. Whether Åkerfeldt was the sole inventor of specific hub designs does not negate his joint inventorship of the needles of the '056 patent, which are depicted and claimed broadly. Bard also stresses that if indeed there were error in inventorship, such errors are correctable and do not invalidate the patent absent deceptive intent. To invalidate a patent based on incorrect inventorship it must be shown not only that the inventorship was incorrect, but that correction is unavailable under section 256:

> *§256* [¶2] The error of omitting inventors or naming persons who are not inventors shall not invalidate the patent in which such error occurred if it can be corrected as provided in this section. . . .

Although M3 contends that deceptive intent can be inferred from the omission of Taylor as an inventor, precedent requires that one who claims a share of inventorship must establish that right by clear and convincing evidence. *Ethicon*, 135 F.3d at 1465-66, 45 USPQ2d at 1552; *Hess*, 106 F.3d at 980, 41 USPQ2d at 1785-86. Since such evidence was absent, the judgment of invalidity based on incorrect inventorship can not stand, and is reversed.

D. *Violation of Reissue Requirements*

The jury also found by special verdicts that the asserted '056 claims were invalid on the ground that the reissue requirements were not met. M3 Systems explains in its brief that the jury found that "any purported error in the '154 patent could *not* be corrected by reissue," explaining that the errors were the error in inventorship and the error in failing to claim the needles in the original '154 patent.

[3] With respect to the argument that the correction of inventorship was improperly made by reissue, we have been directed to no legal or procedural error, for the prosecution history clearly shows that the error in inventorship was described in the reissue application and corrected by appropriate petition, filed and processed while the reissue application was pending. A petition to correct inventorship, 37 C.F.R. §1.324 (1991), may be filed during reissue proceedings. The error in inventorship was corrected before the reissue patent was granted, and thus the reissued patent names Lindgren and Åkerfeldt as the inventors. This procedure can not have provided ground for a reasonable jury's verdicts

of invalidity based on violation of reissue requirements.

[4] The other aspect that M3 Systems argued was not amenable to correction by reissue was the addition of claims to the needles per se. That argument incorrectly states the reissue law, for a primary purpose of the reissue statute is to enable the addition of claims to subject matter not claimed in the original patent. *See Scripps Clinic & Res. Found'n v. Genentech, Inc.*, 927 F.2d 1565, 1575, 18 USPQ2d 1001, 1009 (Fed. Cir. 1991) (purpose of reissue statute is to avoid forfeiture of substantive rights due to erroneously claiming less than entitled, through error without intent to deceive); *In re Wilder*, 736 F.2d 1516, 1518-19, 222 USPQ 369, 371-72 (Fed. Cir. 1984) (purpose of reissue is to correct errors such as misunderstanding scope of the invention and claiming less than that to which the inventor was entitled).

M3 Systems states that since the needles were not claimed originally they were not "intended" to be claimed, and that absence of such intent is not an error correctable by reissue. That too is an incorrect statement of the law. An inventor's failure to appreciate the scope of an invention at the time of the original patent grant, and thus an initial intent not to claim the omitted subject matter, is a remediable error. *See In re Amos*, 953 F.2d 613, 619, 21 USPQ2d 1271, 1276 (Fed. Cir. 1991) (reissue application not subject to rejection for failure to demonstrate initial intent to claim, when subject matter of reissue claims satisfies §112 requirements); *In re Weiler*, 790 F.2d 1576, 1581, 229 USPQ 673, 676-77 (Fed. Cir. 1986) ("intent to claim" is shorthand for a means of measuring whether required error is present); *In re Hounsfield*, 699 F.2d 1320, 1322, 216 USPQ 1045, 1048 (Fed. Cir. 1983) (lack of "intent to claim" is only one factor to be considered).

M3 Systems also argues that the error in failing to claim the needles should have been corrected sooner. The reissue statute sets a two-year time limit for filing a broadening reissue application. This requirement was met. *See* 35 U.S.C. §251; *In re Graff*, 111 F.3d 874, 877, 42 USPQ2d 1471, 1473-74 (Fed. Cir. 1997) (broadened claims must be filed within two years); *see also* 37 C.F.R. §1.175 (1991). There is no requirement that a patentee act earlier rather than later during the two-year window established by statute.

M3 Systems has stated no basis in fact or law for its assertion that any reissue procedure was violated. The verdicts of invalidity on this ground are unsupported in law, and judgment based thereon is reversed.

E. *The On-Sale Issue*[*]

The jury also found that the asserted '056 claims were invalid on the ground that the new needle assembly had been "patented or published or in public use or on sale" in the United States more than one year before the filing date of the '154 patent application in the United States. *See* 35 U.S.C. §102(b), *supra* note 3: Since that filing date was July 30, 1986, the critical date for bar purposes is July 30, 1985.

Although the special verdicts did not distinguish among the statutory grounds of patented or published or in public use or on sale, the major focus at trial and on appeal is the issue of on sale. While M3 Systems also argued that there was a bar based on publication and public use, the only evidence referred to relates to the first generation gun and the Tru-Cut needles, which are acknowledged prior art and are not claimed in the patents in suit. M3's argument at trial that these prior art devices were also a bar to the '056 claims under section 102(b) is not pressed on appeal.

The '154 and '056 patents are directed to the second generation gun and new needles. Before the critical date, indeed before the development of the second generation gun and new needles had been completed, Radiplast was engaged in a variety of activities directed to the United States market. These activities included demonstrating and promoting the first generation gun with the Tru-Cut needles, pursuing arrangements for clinical trials for the second generation gun and new needles through collaboration with a potential United States distributor, applying for FDA approval, arranging for manufacture of the needles in the United States, and related activities directed to commercial goals. Although Radiplast's final needle design was developed after the critical date, the issue at trial was the effect of these prior activities under the law of section 102(b).

Federal Circuit precedent on the on-sale bar requires consideration by the court of the totality of the circumstances in light of the various policies that underlie the bar. Precedent explains that "while a wide variety of factors may influence the on sale determination, no single one controls the application of section 102(b), for the ultimate conclusion depends on the totality of the circumstances." *Ferag AG v. Quipp, Inc.*, 45 F.3d 1562, 1566, 33 USPQ2d 1512, 1514 (Fed. Cir. 1995); *see Envirotech Corp. v. Westech Eng'g Inc.*, 904 F.2d 1571, 1574, 15 USPQ2d 1230, 1232 (Fed. Cir. 1990).

Although a few cases have recognized the advantages of a bright line rule that would be applicable in all cases, that is, a defining event whereby an inventor will know when the bar will accrue, generally the court has undertaken to weigh the particular facts of the commercial activity against the particular policy considerations that apply to the situation, giving effect to the principle that "the policies or purposes underlying the on sale bar, in effect, define it." *RCA Corp. v. Data General Corp.*, 887 F.2d 1056, 1062, 12 USPQ2d 1449, 1454 (Fed. Cir. 1989). Thus, in general, "this court has been careful to avoid erecting rigid standards for 102(b)." *Western Marine Elecs., Inc. v. Furuno Elec. Co.*, 764 F.2d 840, 844, 226 USPQ 334, 337 (Fed. Cir. 1985); *see Petrolite Corp. v. Baker Hughes, Inc.*, 96 F.3d 1423, 1425, 40 USPQ2d 1201, 1203 (Fed. Cir. 1996) ("This court has emphasized that the totality of the circumstances must be considered in determining whether a particular event creates an on-sale or public use bar." (quoting *U.S. Environmental Prods., Inc. v. Westall*, 911 F.2d 713, 716, 15 USPQ2d 1898, 1901 (Fed. Cir. 1990))).

The determination of whether a product was on sale in terms of section 102(b) is a question of law. *See Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1544, 41 USPQ2d 1238, 1243-44 (Fed. Cir. 1997) (discussing precedent and applying the totality of the circumstances standard as a matter of law); *KeyStone Retaining Wall Sys., Inc. v. Westrock, Inc.*, 997 F.2d 1444, 14451, 27 USPQ2d 1297, 1303 (Fed. Cir. 1993) (explaining relevant factual inquiries); *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1562-64, 4 USPQ2d 1210, 1213-14 (Fed. Cir. 1987) (discussing various factors to be weighed in context of experimental testing by third persons).

The various policy considerations include the policy of providing a limited but normally sufficient time (one-year) for the inventor to test the commercial reception of the invention before deciding whether it warrants patenting; the policy of limiting the period during which the patentee may delay entering into the patent system for the purpose of deferring the end of the period of patent-based exclusivity; the policy favoring prompt public disclosure of inventions through the patent system; and the policy of recognizing the practical consideration whereby the value of an invention may not be known until it is publicly tested. Depending on the dominant policy considerations in the particular case, applied to the factual circumstances of that case, the Federal Circuit has reached a variety of conclusions as to when the on-sale bar arose. The court's precedent illustrates rulings ranging from the requirement that the patented product was produced and available commercially before the on-sale bar started to accrue, to rulings that the bar was triggered before the invention had been completed.

Before the critical date for the '056 patent, July 30, 1985, three sets of events were explored at trial. The facts are not in dispute; the question is whether, as a matter of law, the on-sale bar arose in these circumstances:

1. *The Clinical Trials*

The clinical trials were arranged by American Pharmaseal, Radiplast's potential distributor in the United States, and were conducted in August and September 1985 (after the critical date) using the second generation guns and new needles. In January 1985 Thomas Engström of Radiplast had quoted to Pharmaseal the price for 12 guns and 500 needles for use in the trials. Pharmaseal later that spring requested 10 guns and 250 needles, for which Radiplast sent an invoice in June 1985. Mr. Engström testified that this payment was to defray some of Radiplast's costs in providing these devices, and was so understood. It was not disputed that the transaction produced no profit for Radiplast.

M3 Systems asserts that Radiplast sold the 10 guns and 250 needles to Pharmaseal, pointing out that a standard sales invoice was used. Bard replies that this was a transaction between collaborators, not a commercial sale and not a sale for commercial distribution. Dr. Lindgren testified that he visited the four United States hospitals that were testing the device (after the critical date), to explain its use and to see how it worked in different tissues, operated by different doctors. Bard stresses that the devices were not sold, that all but one were returned by the hospitals after the clinical trials, and unused needles were destroyed.

Generally cost defrayal arrangements between collaborators are not deemed to be invalidating sales, nor are payments for use substantially for test purposes. *See In re Mahurkar*, 71 F.3d 1573, 1577, 37 USPQ2d 1138, 1142 (Fed. Cir. 1995) (actual sale of two prototype catheters "did not place the

[*] This section is the dissenting opinion of Judge Newman. The court affirms the judgment of invalidity for violation of the on-sale bar, in separate opinions of Chief Judge Mayer and Judge Bryson.

invention in the public domain or lead the public to believe that the device was freely available"); *Ethicon, Inc. v. United States Surgical Corp.*, 762 F. Supp. 480, 506-07, 19 USPQ2d 1721, 1740 (D. Conn. 1991) (clinical tests by surgeon not a public use under §102(b)), *aff'd*, 765 F.2d 1062 (Fed. Cir. 1992) (Table); *Baker Oil Tools*, 828 F.2d at 1564, 4 USPQ2d at 1214 (discussing factors in deciding whether the purpose of testing was primarily experimental). In its submissions to the PTO during the reissue proceeding Radiplast characterized the transaction concerning the 10 guns and 250 needles as for experimental purposes.

It is not disputed that the sole purpose of this transaction was to make the devices available to the four selected hospitals for a limited test period. Radiplast's arrangement with Pharmaseal for payment or defrayal of the cost of providing the devices was not a sale or offer of sale as contemplated by section 102(b). It contravenes none of the policies underlying the on sale bar for Radiplast to have recouped these costs. Upon considering the totality of the circumstances, I conclude that an on-sale bar did not arise based on this transaction between Radiplast and Pharmaseal in connection with the clinical trials.

2. *The Bulk Price Quotation*

In January 1985 Radiplast quoted to Pharmaseal prices for various bulk quantities of up to 50,000 needles. At that time the new needles were still being modified, and the record shows that design changes were made well after January 1985. Mr. Engström of Radiplast testified that the quotation was information for a potential distributor, in the event that Pharmaseal accepted that role (it did not). The bulk price quotations were in a telex that stated, "This is to give you an indication of the price levels. We have to meet and discuss more in detail all things related with the marketing of our biopsy instrument in US." It was not disputed that the quotation was for modified needles, and that both parties understood that the modified needles were not yet available.

M3 Systems argues that since the first generation device had been shown to operate for its intended purpose using Tru-Cut needles, the inventor had already convinced himself that he had a satisfactory product that he wished to commercialize in the United States, and thus that the bulk price quotation, even if for needles not yet developed, was an on-sale event. M3 stresses that the price quoted for bulk quantities included a profit for Radiplast, unlike the price for the clinical trial quantities.

Quotation of a sales price to a potential distributor of a product that is not available for sale and distribution does not of itself establish an on-sale bar. *See Continental Can*, 948 F.2d at 1270, 20 USPQ2d at 1750 (price terms set between collaborators in joint research not an on-sale bar); *Shatterproof Glass*, 758 F.2d at 622, 225 USPQ at 639 ("clear weight of authority is that a bare offer to sell does not ipso facto satisfy the 'on sale' bar"). A primary policy served by the on-sale bar is to provide time for an inventor to determine the reception of his invention in the marketplace before entering into the patent system, while the one-year limit prevents undue lengthening of the period of exclusivity. The policy is served when cognizance is taken of whether the invention is ready for commercial use at the time that customer contacts are made. Although exceptions have arisen on particular facts, normally the on-sale bar does not accrue based on customer contacts made while the product is still being developed or tested. *See KeyStone*, 997 F.2d at 1451, 27 USPQ2d at 1303 (on-sale bar "requires that the device asserted to be on sale was operable"); *Seal-Flex Inc. v. Athletic Track & Court Constr.*, 98 F.3d 1318, 1322, 40 USPQ2d 1450, 1452 (Fed. Cir. 1996) (invention not completed if it required testing under conditions of actual use).

In this case, the circumstances of the incomplete stage of development of the second generation gun and proposed new needles at the time of this price quotation, the potential but not established distributor relationship underlying this quotation, the planned clinical collaboration, and the non-existence of a completed final product, negate the accrual of an on-sale bar from this price quotation. It seems clear that neither Radiplast nor Pharmaseal expected that this bulk price quotation would be followed by the placement of an order. To satisfy the on-sale requirement of section 102(b) there must be more than an informational exchange of price information, when there is no reasonable contemplation that the quotation will be followed by purchase and sale as a commercial transaction.

I conclude that the verdicts of invalidity based on the on-sale bar can not be supported by this bulk price quotation.

3. *The Correspondence with Dr. Phelps*

The third event raised by M3 Systems occurred in November 1984. Mr. Engström of Radiplast responded to a letter written in September 1984 by Dr. Phelps, a physician in Alabama, who had seen a demonstration and brochure for the first generation device and wrote to Sweden for information. Engström wrote back that he hoped to start marketing a second generation device and new needles in the United States in early 1985, and that if Dr. Phelps did not wish to wait until United States distribution was arranged he could order directly from Sweden; the letter quoted prices for a gun and needles. No further correspondence ensued. Dr. Phelps testified that he expected that had he sent an order it would have been filled, and that he knew nothing about the difference between "generations." Mr. Engström testified that neither the new needles nor the completed second generation gun was available when he answered Dr. Phelps.

An offer of sale originating in a foreign country, directed to a consumer in the United States, can establish an on-sale bar as to what was offered. *In re Caveney*, 761 F.2d 671, 676-77, 226 USPQ 1, 4 (Fed. Cir. 1985). The demonstration and brochure that led to Dr. Phelps' inquiry were of the first generation device, which used Tru-Cut needles. Although the details of Radiplast's product changes were not explained to Dr. Phelps it was undisputed that an order, if placed, could not have been filled at that time with the second generation gun and needles. *Cf. King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860, 226 USPQ 402, 407 (Fed. Cir. 1985) (finding it significant that purchaser could discern that it was the later-patented invention being offered for sale).

At the time of Mr. Engström's letter the second generation device and needles were in an early development stage. Although Dr. Phelps was not told the details of these developments, this correspondence did not raise an on-sale bar to a product not yet developed. As held in *Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1167-68, 42 USPQ2d 1619, 1623 (Fed. Cir. 1997), "subsequent completion of an invention after the critical date does not relate back to the date of an earlier alleged offer of sale." *See also Micro Chem.*, 103 F.3d at 1544-45, 41 USPQ2d at 1243 (no on-sale bar when invention not completed at time of offer, only prototype and sketch of proposed configuration); *Shatterproof Glass*, 758 F.2d at 622, 225 USPQ at 639 (not an on-sale bar to solicit orders before invention completed); *cf. Pfaff v. Wells Elecs., Inc.*, 124 F.3d 1429, 43 USPQ2d 1928 (Fed. Cir. 1997), *cert. granted*, 118 S. Ct. 1183 (1998) (No. 97-1130) (although invention not reduced to practice because no physical embodiment had been made, the firm purchase order and delivery date accrued the on-sale bar) (citing *UMC Elecs. Co. v. United States*, 816 F.2d 647, 2 USPQ2d 1465 (Fed. Cir. 1987)). On the totality of the circumstances, considering the relevant policies and the undisputed facts, I conclude that this letter to Dr. Phelps, written in response to an inquiry about the first generation device, which resulted from a brochure on the first generation device, stating the price for the second generation device and needles before they were fully developed and before they were available, did not trigger the on-sale bar.

Upon *de novo* review of the totality of the circumstances, with due consideration to the applicable policies, the undisputed facts, and drawing factual inferences in favor of the verdicts, I conclude that the verdicts of invalidity based on a section 102(b) bar are incorrect; I would reverse the judgment on that ground.[3]

II

INFRINGEMENT OF THE '056 PATENT

In view of the majority's affirmance of the judgment of invalidity, we do not reach the issue of infringement of the '056 patent. That judgment is vacated.

III

VALIDITY OF THE '308 PATENT

The '308 patent is directed to the third generation gun. The jury found the asserted claims of the '308 patent not infringed, and invalid or unenforceable on the grounds of anticipation, obviousness, and insufficient

[3] The three different views in the three opinions of this panel on the on-sale issue point up the need for a more certain law than today exists. Inventors and those who commercialize inventions should reasonably know when the on-sale bar starts to accrue, instead of awaiting litigation-borne *post hoc* judicial evaluations of the totality of the circumstances, varying with the nature of the invention, the nature of the customer contact, and the judicial weight given to the conflicting policy interests.

I favor, as simple and fair, the bright line rule that for the §102(b) on-sale bar to accrue the invention must exist in commercial form when the offer of sale is made. This rule would implement the dominant policy of providing a one-year grace period for determining the performance of the product in the marketplace.

supporting description, as well as for fraud, misuse, and violation of antitrust law, as discussed in Parts V-VII; *post*.

Claims 15 and 16 were at issue, with emphasis added to show the claim terms whose construction is relevant to the issues of patent validity or infringement:

15. A tissue sampling device comprising:

a guide sleeve having front and rear guide sleeve ends and defining a longitudinal axis extending between said front and rear guide sleeve ends, said front guide sleeve end having an opening therethrough;

a hollow first needle positioned within said guide sleeve and extendable from said opening, said hollow first needle being moveable along said axis;

a second needle extending through said hollow first needle and moveable along said axis, said second needle having a tip which is extendable from said hollow first needle and said opening, and said second needle further including a tissue sample receiving recess;

a first needle head coupled to said hollow first needle and *mounted within said guide sleeve* for movement along said axis to move said hollow first needle along said axis;

a second needle head coupled to said second needle and *mounted within said guide sleeve* for movement along said axis to move said second needle along said axis;

a first spring *disposed within said guide sleeve* and operatively associated with said second needle head, said first spring being capable of being placed into an energized mode to store energy, and said first spring being releasable from said energized mode to propel said second needle head along said axis towards said opening, such that said tip of said second needle is extended from said hollow first needle, whereby a tissue sample can be captured within said recess;

a second spring *positioned within said guide sleeve* and operatively associated with said first needle head, said second spring being capable of being placed into an energized mode to store energy, and said second spring being releasable from said energized mode to propel said first needle head along said axis towards said opening, said hollow first needle being extended from said opening such that said recess of said second needle is enclosed by said hollow first needle;

a first latch means selectively releasable from outside said guide sleeve for releasably holding said first spring in said energized mode;

a second latch means for releasably holding said second spring in said energized mode, said second latch means being releasable in response to and subsequent to release of said first spring; and

sequential energizing means operative to move said first needle head along said axis towards said rear guide sleeve end to cause said second latch means to hold said second spring in said energized mode, *and subsequently to move said second needle head* along said axis towards said rear guide sleeve end to cause said first latch means to hold said first spring in said energized mode.

Claim 16 is the same as claim 15 except for the last clause, which includes the selective retraction of the stylet to expose the tissue sample:

16. "... *energizing means operative to move said first needle head and said second needle head* along said axis towards said rear guide sleeve end to cause said first latch means to hold said first spring in said energized mode and to cause said second latch means to hold said second spring in said energized mode, said energizing means being selectively operative to move said first needle head but not said second needle head towards said rear guide sleeve end, whereby said hollow first needle is selectively retractable to expose said tissue sample receiving means in said second needle.

A. *Support by the Written Description*

The jury found claims 15 and 16 "not supported by the description contained in the specification." M3 Systems explains that the issue was the meaning of the claim terms "sequential energizing" and "energizing means." The district court had permitted the jury to resolve this disputed issue of claim construction. On this appeal we give *de novo* review to the issues relevant to the construction and interpretation of the claims. *See Cybor*, 138 F.3d at 1454-56, 46 USPQ2d at 1172-75.

M3 Systems states that "sequential" should be construed, and was construed by the jury, to permit no overlap of needle movement during the energizing step. M3 states that since the patent shows that the second needle can start to move before the first needle has completed its movement, the written description does not support the claims. M3 states, as it did at trial, that since the specification does not describe how to obtain elimination of all overlap of needle movement, the claims are not supported by the written description and are invalid.

[5] Bard agrees that the specification shows a slight overlap in the movement of the needles, whereby the second needle starts to move just before the first needle has completed its movement and the first spring latches. Thus, Bard contends, correct interpretation of the claims allows for this slight overlap in needle movement. Bard states that it is incorrect to construe the claims contrary to the specification, and then to hold the claims invalid because they are contrary to the specification. Bard is of course correct; the claims are construed in accordance with the rest of the specification of which they are a part, and not contrary to it. *See Slimfold Mfg.*, 810 F.2d at 1116, 1 USPQ2d at 1566; *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1125, 227 USPQ 577, 585 (Fed. Cir. 1985) (in banc).

The specification illustrates the sequential energizing of the needles as having some overlap in movement of the needles. The term "sequential" in the claims is in accordance with this description in the specification; no usage or exemplification of the sequential movement requires eliminating all overlap. It is incorrect to construe the claims as barring all overlap, as urged by M3 Systems. On the correct claim construction, no reasonable jury could have found that the claims are not supported by the description in the specification. It is thus apparent that the jury either adopted M3's erroneous claim construction, or incorrectly applied the law governing claim construction to the undisputed facts of the structure described in the specification.

On the correct claim construction the written description is in accordance with and in support of the claims. The judgment of invalidity on this ground is reversed.

B. *Anticipation*

The jury also found claims 15 and 16 invalid based on anticipation. "Anticipation" requires that the identical invention was already known to others, that is, that the claimed invention is not new. *See Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1572, 24 USPQ2d 1321, 1332 (Fed. Cir. 1992) ("In order to anticipate, the [reference] must sufficiently describe the claimed invention to have placed the public in possession of it.") M3 Systems argued that anticipation arose on the published PCT application describing the first generation biopsy gun, and on the device itself. It was not disputed, however, that the first generation gun lacks the integrated mechanical energizing structure described and claimed in the '308 patent, and that the PCT application does not show such structure.

M3 Systems' argument was that when the claims are correctly construed they are anticipated. M3 states that on the claim construction reached by the jury in finding claims 15 and 16 unsupported by the written description, whereby the term "sequential" is defined as barring all overlap in needle movement, the structure in the specification is inconsistent with the claims and therefore must be disregarded. M3 argues, as we understand it, that since "energizing means" and "sequential energizing means" are in means-plus-function form, it is appropriate to disregard the structure in the specification that is inconsistent with the claim language, leaving the claimed functions with "*no* disclosed supporting structure," quoting from M3's brief. Thus, according to M3, these claim terms are directed only to function, and can be anticipated by any prior art that shows the function of energizing or sequential energizing, without limit to how that function is performed. Thus M3 argues that since the PCT application and the first generation gun are manually sequentially energized, one spring at a time, the jury correctly found anticipation by the first generation gun and the PCT application.

Indeed, the jury verdicts can be understood only if one adopts so tortured a view of the law. As we have discussed, it is incorrect to construe claims contrary to the specification, and it is incorrect to construe terms in means-plus-function form as disembodied from the structure in the specification. M3 Systems' witnesses readily admitted that the integrated mechanized gun described and claimed in the '308 patent is different from the first generation gun and the description of that gun in the PCT application. On the undisputed facts and the correct law, a reasonable jury could not have found the '308 claims anticipated thereby. The judgment of invalidity for anticipation must be reversed.

C. *Obviousness*

M3 Systems argues that the third generation gun of the '308 patent would have been obvious in view of the PCT application and the first generation gun, in combination with the '154 patent describing the second generation gun. M3 states that the third generation is an obvious combination of elements found in the first and second generations. See discussion, Part I.B. *ante*, of the law of obviousness. There was no dispute as to the scope and content of this prior art, or as to the

elements in the third generation gun that were not in either the first or second generations. The only dispute was the ultimate question of whether the third generation gun would have been obvious from what had gone before.

M3 Systems contends that for the third generation the inventor simply changed the integrated mechanical cocking mechanism of the second generation gun to accomplish mechanically the sequential cocking that was necessarily done when the first generation gun was manually cocked, one spring at a time. Bard replies that the one-at-a-time cocking of the springs in the first generation, by hand or by miniature crowbar, does not teach or suggest the integrated automatic sequential cocking of the third generation, and that there is no teaching or suggestion in the prior art to make such a combination, or of the structure having the improved ease of handling of the third generation gun. Bard also points to the other new structural features of the third generation whereby the needles can be retracted separately after tissue sampling.

The ultimate question is whether, from the evidence of the prior art and the knowledge generally available to one of ordinary skill in the relevant art, there was in the prior art an appropriate teaching, suggestion, or motivation to combine components in the way that was done by the inventor. *See, e.g., Uniroyal*, 837 F.2d at 1050, 5 USPQ2d at 1438; *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The ultimate determination of obviousness is a legal conclusion. When this legal conclusion is drawn by the jury the verdict is reviewed, as discussed in Part I.B, to determine whether substantial evidence supports the factual findings necessary to support the legal conclusion, with due consideration to the presumption of validity and the standard of proof.

[6] Bard points out that its rotating sleeve mechanism for sequential energizing is a marked distinction from its earlier devices, even were the concept of sequential energizing deemed to be derivable from the manual operation of the first generation. M3 Systems does not cite any reference suggesting the structure employed in the third generation gun, or any suggestion of mechanical sequential energizing, or indeed the other features of the third generation. Those contributions came from the inventor, not the prior art. *See Uniroyal*, 837 F.2d at 1050, 5 USPQ2d at 1438. We have been directed to no teaching or suggestion of this combination in the descriptions of the first and second generation guns, viewed separately or together. Thus the verdicts of invalidity on the ground of obviousness are without essential factual support, and can not stand.

IV.

INFRINGEMENT OF THE '308 PATENT

The jury found that M3 Systems did not infringe claims 15 and 16 of the '308 patent. Because the special verdicts discussed in Part III.A (that there is not support for these claims in the written description) require an incorrect claim construction, we have reviewed the verdicts of noninfringement on the correct construction, *i.e.*, that claims 15 and 16 do not require a total absence of overlap in the sequential movement of the needles during energizing. Bard contends that on the correct claim construction the verdicts of noninfringement can not stand. Bard is entitled to a new trial if a jury reasonably could have reached verdicts of infringement upon correct claim construction and correct application of the law of infringement. However, if only one result is supportable in law and on undisputed facts, judgment as a matter of law is appropriate. *See Strattec*, 126 F.3d at 1419, 44 USPQ2d at 1036.

On appeal Bard argues only the issue of sequential energizing, asserting literal infringement under section 112 paragraph 6. M3 Systems does not dispute, and indeed emphasizes, that in its ProMag devices there is sequential energizing with a slight overlap in needle movement. However, M3's performance of the function of sequential energizing was not the only disputed issue with respect to infringement. M3 also points out that its device is a box-type biopsy gun and does not contain a "guide sleeve" as required by the claims, and that the M3 ProMag guns use linear tensioning whereas the '308 device performs counter-rotational tensioning, such that the structure used by M3 is not equivalent to that shown in the '308 specification, applying section 112 paragraph 6 to the energizing means of the '308 claims.

M3 Systems states that the '308 patent draws a distinction between box-type biopsy guns such as those made by M3 wherein the housing is merely a container for the device, and guns embodying a mechanism wherein the guide sleeve and a tensioning sleeve interact and serve as part of the cocking mechanism. M3 argued at trial that its housing is independent, whereas in the '308 specification the gun is housed in a two-part structure wherein the inner part is the guide sleeve and the outer part is the tensioning sleeve and rotates about the inner part. These sleeves bear cam surfaces and slots that interact with the flanges on the needle heads and thus serve as part of the cocking mechanism. M3 states that its gun has neither a guide sleeve nor a tensioning sleeve, and that its housing is merely the container for the device, and is unconnected with the cocking mechanism.

Although the claims in suit do not require a tensioning sleeve, *see D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1574, 225 USPQ 236, 239 (Fed. Cir. 1985) (improper to import limitation from one claim into another claim lacking the limitation), the guide sleeve is described in the specification as "the inner sleeve or guide sleeve." The specification shows and the claims require that the guide sleeve perform a guiding function for the cocking mechanism. Bard does not assert that such a structure is found in the M3 guns. Nor does Bard raise on this appeal any issue of equivalency under the doctrine of equivalents.

At the trial the parties presented evidence on how the patented and accused devices worked, and the court instructed the jury as to the applicable law of infringement of means-plus-function claims. For the energizing means Bard was required to establish, by a preponderance of evidence, that M3 Systems' device embodies the structure described in the '308 specification or an equivalent thereof. 35 U.S.C. §112 ¶6; *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1041-42, 25 USPQ2d 1451, 1453-54 (Fed. Cir. 1993); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 805 F.2d 1558, 1562-63, 231 USPQ 833, 834-35 (Fed. Cir. 1986). Since the structure of the M3 energizing means is not the same as that described in the '308 specification, the issue was whether the structures are equivalent. *See D.M.I.*, 755 F.2d at 1575, 225 USPQ at 239 ("[T]he sole question is whether the single means in the accused device which performs the function stated in the claim is the same as or an equivalent of the corresponding structure described in the patentee's specification as performing that function.") The determination of infringement under section 112 paragraph 6 is a factual question. *In re Hayes Microcomputer Prods. Inc. Patent Litig.*, 982 F.2d 1527, 1541, 25 USPQ2d 1241, 1251 (Fed. Cir. 1992); *Intel Corp. v. United States Int'l Trade Comm'n*, 946 F.2d 821, 841, 20 USPQ2d 1161, 1178 (Fed. Cir. 1991); *D.M.I., supra.*

There was no dispute that the function of sequential energizing is performed in the M3 Systems' guns; the only question was whether the M3 guns employ the same or an equivalent of the structure described in the '308 specification. The accused equivalent structure need not have been known at the time the patented invention was made. *See Texas Instruments*, 805 F.2d at 1563-64, 231 USPQ at 834-35 ("It is not required that those skilled in the art knew, at the time the patent application was filed, of the asserted equivalent means of performing the claimed functions. . . .")

It was explained at trial that to achieve sequential energizing in the '308 device the outer tensioning sleeve is rotated about the inner guide sleeve; cam surfaces on the interior of the tensioning sleeve push against wings built directly into the needle heads to compress the two springs in sequence, pressing them rearward into the locked position. In contrast, in the M3 Systems device a handle connected through the rear of the housing acts on sleds bearing the needles; M3's device relies on the lever-action of the handle, as opposed to a rotating sleeve, to pull, rather than push, the needle sleds sequentially back toward their respective latches. Bard had argued at trial, in connection with the issue of validity, that the claims "must be interpreted as means-plus-function terms in accordance with *Valmont*," and cited its "external integrated energizing mechanism that converts rotary motion to linear motion" to distinguish the '308 gun from its own earlier device. Claims must be interpreted the same way for determining infringement as was done to sustain their validity.

[7] A reasonable jury could have found that the structure using rotational tensioning as the energizing means is substantially different from the energizing structure in the M3 Systems guns. Although Bard argues that it suffices for infringement if the energizing is achieved with the slight overlap shown in the '308 patent, that is, if the function of sequential energizing is performed, claims written in the form authorized by section 112 paragraph 6 are limited by the structure described and equivalents of that structure. Performance of the same function does not of itself establish infringement.

Bard directs us to the doctrine of claim differentiation, and argues that it is incorrect to interpret the "sequential energizing means" of claim 15 as limited to the structure in the specification, because other claims, not at issue, specifically state that structure. Bard argues that its claims in suit are broader in that they state only the function of sequential energizing, and that they therefore warrant broader scope than the

claims that state a specific energizing structure. However, as we have discussed, claims that are written in the form authorized by section 112 paragraph 6 are by statute limited to the structure described in the specification and equivalents of that structure. As discussed in *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538, 19 USPQ2d 1367, 1371 (Fed. Cir. 1991) a "means-plus-function limitation is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure."

Applying this law, and based on the absence of a guide sleeve or any counterpart structure, and the differences in the structures of the energizing mechanisms, we conclude that on the correct claim interpretation a reasonable jury could find that claims 15 and 16 are not infringed. The judgment of noninfringement of the '308 patent is affirmed.

V

FRAUD

M3 Systems charged that Bard had committed both fraud and inequitable conduct in prosecuting the '056 and '308 patents. The jury was not asked to decide the issue of inequitable conduct, which was reserved to the judge and withdrawn by M3 after the favorable verdicts on the question of fraud. The jury found that it had been established by clear and convincing evidence that each of the '056 and the '308 patents had been procured by fraud in the Patent and Trademark Office.

Fraud in the procurement of a patent requires proof of the elements of fraud as developed in the common law: (1) that a false representation of a material fact was made, (2) with the intent to deceive, (3) which induced the deceived party to act in justifiable reliance on the misrepresentation, and (4) which caused injury that would not otherwise have occurred. *See Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1069-70, 46 USPQ2d 1097, 1105-06 (Fed. Cir. 1998); *Norton v. Curtiss*, 433 F.2d 779, 792-94 & n.12, 167 USPQ 532, 543-45 & n.12 (CCPA 1970) (citing W. Prosser, *Law of Torts* §§100-05 (3d ed. 1964)).

The tort of fraud requires that there was a successful deception, and action taken by the person deceived that would not have otherwise been taken. Applied to patent prosecution, fraud requires (1) a false representation or deliberate omission of a fact material to patentability, (2) made with the intent to deceive the patent examiner, (3) on which the examiner justifiably relied in granting the patent, and (4) but for which misrepresentation or deliberate omission the patent would not have been granted. A finding of fraud can of itself render the patent unenforceable, and when accompanied by the elements of violation of the Sherman Act, as discussed in Part VI, can incur additional consequences.

To establish fraud for purposes of antitrust violation the defendant "must make a greater showing of scienter and materiality" than when seeking unenforceability based on conduct before the Patent Office. 6 Donald S. Chisum, *Chisum on Patents* §19.03[6][e] (rel. 47 1993) (citations omitted). In *Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 177, 147 USPQ 404, 407 (1965) the Court clarified that "knowing and willful" fraud must be shown, and is predicate to potential antitrust violation. As explained in *Handgards, Inc. v. Ethicon, Inc.*, 601 F.2d 986, 996, 202 USPQ 342, 351 (9th Cir. 1979), "[t]he road to the Patent Office is so tortuous and patent litigation is usually so complex, that 'knowing and willful fraud' as the term is used in *Walker* can mean no less than clear, *convincing proof of intentional fraud involving affirmative dishonesty*, 'a deliberately planned and carefully executed scheme to defraud * * * the Patent Office.' ... Patent fraud cases prior to *Walker* required a rigorous standard of deceit .... *Walker* requires no less." (Emphasis and elisions in original.) The requirements of common law fraud are in contrast with the broader sweep of "inequitable conduct," an equitable defense that may be satisfied when material information is withheld with the intent to deceive the examiner, whether or not the examiner is shown to have relied thereon. *See Kingsdown Med. Consultants v. Hollister, Inc.*, 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988).

M3 Systems stated that Bard made myriad material misrepresentations in prosecuting the '056 and the '308 patents, including the following: the incorrect inventors were named; actual samples of the Tru-Cut needles and the first generation device were not provided to the examiner; the Baxter patent on the Tru-Cut needle and two Lindgren articles on the first generation device were not provided to the examiner; the material submitted to the FDA was not provided to the examiner; the examiner was not told of the co-pending design patents; and the examiner was not provided with all of the evidence on the on-sale issue. Bard responded that there is no substance to any of these assertions; that all material information was presented to the examiner; that there was no intent to deceive the examiner; that the examiner was not deceived; and that the evidence points to good faith in the prosecution of these patents. Good faith is an absolute defense to the charge of common law fraud. *See Walker Process*, 382 U.S. at 177, 147 USPQ at 407.

[8] M3 Systems argues that any omission in the submissions to the PTO is "necessarily material, because the allowance of the application is the intended natural consequence of that submission." That is not a correct statement of the law. There is no presumption that information not filed by an applicant was material simply because patentability ensued. To establish culpability any omission must be of a fact material to patentability and it must be a deliberate misrepresentation, whether by omission or misstatement, that was intended to and did mislead the examiner into taking favorable action that would not otherwise have been taken. Intent to mislead or to deceive must be proved by clear and convincing evidence. *See Walker Process, supra.* Deceptive intent is not inferred simply because information was in existence that was not presented to the examiner; and indeed, it is notable that in the usual course of patent prosecution many choices are made, recognizing the complexity of inventions, the virtually unlimited sources of information, and the burdens of patent examination. *See Northern Telecom*, 908 F.2d at 939, 15 USPQ2d at 1327 (discussing the ease with which routine patent prosecution may be portrayed as tainted conduct).

Following are the actions that M3 Systems presented as probative of fraud in the prosecution of the '056 or the '308 patent:

1. *The Inventorship Issue*

This issue was discussed *ante* in connection with the validity of the '056 patent. There was no evidence of intent to deceive in correcting the inventorship to include Mr. Åkerfeldt with Dr. Lindgren as joint inventors. The question of Mr. Taylor's role as a possible inventor did not present substantial evidence of fraud. Indeed, since the inventorship issue was not grounds of invalidity, it can not satisfy the "but for" test of fraud.

2. *Provision of Actual Models to the Examiner*

M3 Systems argued that Bard should have provided the reissue examiner with actual models of the first generation gun and the Tru-Cut needles, in addition to the PCT application and publications describing the needles. The PCT application described the first generation gun, and descriptions of the Tru-Cut needles were before the examiner. Reviewing the prosecution history we do not discern substantial evidence of material withholding, for cumulative information is not material to patentability, and there was no evidence of deceptive intent or that the examiner was deceived into granting the reissue. This issue can not support the verdict of fraud.

3. *Provision of On-Sale Information to the Examiner*

Bard filed with the PTO descriptions of the transactions involving Radiplast and Pharmaseal before the critical date, accompanied by documents including the invoice for the 10 guns and 250 needles for the clinical trials, the bulk price quotation discussed *ante* in connection with the on-sale issue, and declarations concerning the hospital tests and the proposed distribution relationship between Radiplast and Pharmaseal. M3 Systems states that Bard should have also disclosed to the PTO Radiplast's sales activities for the first generation device, Radiplast's letters to doctors concerning the clinical trials, the fact that the bulk price quotation included a profit, and Radiplast's letter to Dr. Phelps.

Concerning Dr. Phelps. Bard answers that it submitted to the PTO all the relevant material it had obtained. The letter to Dr. Phelps was obtained after suit was filed, during discovery of Radiplast's files in Sweden. There was no evidence that Bard had obtained and withheld this information during the reissue prosecution. With respect to the bulk price quotation, M3 Systems states that Bard should have flagged this document and described its significance to the examiner, lest it be overlooked in the volume of paper. Bard responds that the documents provided to the examiner were a record of Radiplast's efforts to find a distributor and its transactions with Pharmaseal, and that the total number of documents was not so voluminous, or the contents so difficult to understand, as to support an inference of intentional concealment of any particular document that was filed. We agree that these documents, all in the prosecution history, are easily read.*

* The record provided us does not show any response from the PTO. Although Bard states that "the [PTO] determined that the transfers to American Pharmaseal [ ] were for primarily experimental purposes and therefore did not trigger

On reviewing these filings in the PTO we have been directed to no evidence of material withholding or the provision of false information, or of intent to deceive or actual deception. The additional subject matter that M3 states should have been included was not shown to be material or other than cumulative. These actions did not constitute substantial evidence of fraud.

4. Disclosure of the Information Filed with the FDA

None of the material provided us with respect to Radiplast's 510(k) pre-market notification filed with the Food & Drug Administration supports a finding of fraud in the patent prosecution. M3 Systems concentrates on the presence in this package of needle drawings made by Hart Enterprises, the designated manufacturer. As we have explained, the inventorship issues that have been raised do not provide substantial evidence of fraudulent procurement of these patents.

5. Disclosure of the PCT Application

The PCT application had been submitted to the PTO during prosecution of the '154 patent and again during the '056 reissue proceedings. M3 Systems states that Bard withheld the PCT application from the examiner of the '308 patent and then mischaracterized it.

M3 Systems stated at trial and repeats on this appeal that Bard submitted the PCT application to the examiner of the '308 patent only after allowance of the '308 claims in suit, and then falsely represented that it was relevant solely to newly added claims 21-23 (as then numbered). Bard complains that M3 misstated at trial, and continues to misstate, these facts. We must agree. The '308 prosecution history in the record shows that Bard cited the PCT application and filed a copy thereof with a Supplemental Information Disclosure Statement accompanying Bard's first response, filed October 13, 1989, to the first Office Action. Contrary to M3's statements, the prosecution record shows that no claims had been allowed or held allowable when the PCT application was submitted to the PTO.

In submitting the PCT Application Bard's patent attorney pointed out the aspect of that application that M3 Systems has stated is of greatest significance, *viz.*, the separate and thus sequential hand cocking of the springs in the first generation device. In the Remarks section of the response Bard discussed claims 21-23, the claims specific to sequential energizing. We discern no support for M3's argument that Bard misrepresented the content of the PCT application, or that the examiner did not consider the PCT application adequately. The examiner initialed on December 15, 1989 that he had considered this reference, the same day a telephone interview was held that led to an examiner's amendment, followed by allowance on January 3, 1990. The charge of fraud based on these events is totally without substance.

Conclusion

These asserted flaws in patent prosecution, separately or taken together, do not constitute substantial evidence of fraud. The verdicts of fraud in procuring the '056 and '308 patents can not stand, and the judgment on these verdicts is reversed.

VI

ANTITRUST ISSUES

Antitrust violation was found on special verdicts that Bard by anticompetitive conduct had monopolized or attempted to monopolize the relevant markets for each of fully automated biopsy guns and needles, guns alone, and replacement needles. The jury instructions on the antitrust count identified three separate claims; first, that the patents were procured by fraud followed by attempts to enforce the fraudulently procured patents; second, that Bard threatened and then brought suit knowing that its patents were invalid, unenforceable, or not infringed; and third, that Bard unlawfully leveraged its monopoly power in the guns to obtain a competitive advantage in replacement needles by modifying its gun to accept only Bard needles. The jury found in favor of M3 Systems and against Bard on every question, and assessed compensatory damages, measured primarily as litigation costs, of $1.5 million, which were trebled as required by section 4 of the Clayton Act. Bard argues that the findings are not supported by substantial evidence, and that judgment as a matter of law should have been granted.

A. The Walker Process Claim

Fraud in obtaining a United States patent is a classical ground of invalidity or unenforceability of the patent. In *Walker Process*, 382 U.S. 172, 147 USPQ 404 the Court established that antitrust liability under section 2 of the Sherman Act may arise when a patent has been procured by knowing and willful fraud, the patentee has market power in the relevant market, and has used its fraudulently obtained patent to restrain competition. Restraint on competition based on power in the relevant market must be established on the criteria of section 2, when the patent has been fraudulently obtained. *See Nobelpharma*, 141 F.3d at 1068, 46 USPQ2d at 1104;[1] *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 455-56 (1993) (explaining *Walker Process* as requiring appraisal of the exclusionary power of the fraudulently obtained patent in terms of the relevant market for the product involved).

The jury found by special verdicts that the '056 and '308 patents were obtained by fraud in their prosecution before the PTO, as discussed in Part V, *ante*. The jury also found that "there is a relevant product market" for the biopsy guns and needles, together and separately, that Bard had monopoly power in each market and had "engaged in restrictive or exclusionary conduct with the conscious object of acquiring monopoly power in that market."

[9] It is not presumed that the patent-based right to exclude necessarily establishes market power in antitrust terms. *See Abbott Labs. v. Brennan*, 952 F.2d 1346, 1354, 21 USPQ2d 1192, 1199 (Fed. Cir. 1991) (possession of patent, and market advantages thus gained, do not establish antitrust market power). The virtually unlimited variety and scope of patented inventions and market situations militate against per se rules in these complex areas. Unless the patent had been obtained by fraud such that the market position had been gained illegally, the patent right to exclude does not constitute monopoly power prohibited by the Sherman Act. *Walker Process*, 382 U.S. at 177-78, 147 USPQ at 407. As the Second Circuit stated in *SCM Corp. v. Xerox Corp.*, "No court has ever held that the antitrust laws require a patent holder to forfeit the exclusionary power inherent in his patent the instant his patent monopoly affords him monopoly power over a relevant product market." 645 F.2d 1195, 1204, 209 USPQ 889, 899 (2d Cir. 1981).

[10] Thus it was necessary for M3 Systems to establish market power as well as fraudulent procurement of the patent and that Bard's related commercial activity was coupled with violations of section 2. In addition, applying the law of the Seventh Circuit to the elements of section 2, M3 was required to establish that Bard had a specific intent to monopolize, engaged in anti-competitive conduct, and had a dangerous probability of success. *See Great Escape, Inc. v. Union City Body Co.*, 791 F.2d 532, 540 (7th Cir. 1986). These issues were argued at trial, and by special verdicts the jury found culpability on the part of Bard. However, in view of the incorrect verdicts on the question of fraud in procurement of the '056 and '308 patents, as discussed in Part V, as a matter of law the judgment of antitrust violation can not be sustained on *Walker Process* grounds.

B. "Sham" Litigation

Conduct prohibited under antitrust law includes bringing suit to enforce a patent with knowledge that the patent is invalid or not infringed, and the litigation is conducted for anti-competitive purposes. In such events the antitrust immunity of *Noerr-Pennington* and *California Motor Transp. Co. v. Trucking Unltd.*, 404 U.S. 508 (1972) does not apply to those who seek redress through judicial process.

The Supreme Court in *Professional Real Estate Investors, Inc. v. Columbia Pictures Indus., Inc.* (*PRE*) established the two-part criteria of "sham" litigation: (1) the lawsuit must be objectively meritless such that "no reasonable litigant could expect success on the merits" and (2) it must be found that "the baseless lawsuit conceals 'an attempt to interfere directly with the business relationships of a competitor.' " 508 U.S. 49, 60, 26 USPQ2d 1641, 1646 (1993) (emphasis in original) (quoting *Eastern R.R. Presidents Conf. v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 144 (1961)). The Court declined to decide "whether and, if so, to what extent *Noerr* permits the imposition of antitrust liability for a litigant's fraud or other misrepresentations." *PRE*, 508 U.S. at 62 & n.6, 26 USPQ2d at 1646-47 & n.6. Fraud in the procurement of a patent is governed by *Walker Process* and, as in *PRE*, the complainant "must still prove a substantive antitrust violation." *PRE*, 501 U.S. at 61, 26 USPQ2d at 1646.

the bar," the record citations do not relate to this statement.

[1] In *Nobelpharma* the Federal Circuit held in banc that Federal Circuit law would thenceforth apply to determination of whether fraudulent conduct occurred in obtaining a patent, whereas determination of the other elements of the section 2 violation, *viz.* market power in the relevant market and illegal restraints on competition, since not unique to the patent right would continue to be governed by regional circuit law. 141 F.3d at 1067-68, 46 USPQ2d at 1104.

Thus although sham litigation as a tactic to destroy competition can lead to antitrust violation, *see U.S. Philips Corp. v. Sears Roebuck & Co.*, 55 F.3d 592, 597, 34 USPQ2d 1699, 1703 (Fed. Cir. 1995); *cf. Handgards, Inc. v. Ethicon, Inc.*, 743 F.2d 1282, 1288, 223 USPQ 214, 222-23 (9th Cir. 1984) (addressing *Noerr-Pennington* issue and explaining that to invoke "sham" exception the claimant must show "some abuse of process," and requiring clear and convincing evidence of bad faith), sham litigation requires more than a failed legal theory. *PRE*, 508 U.S. at 60-61 & n.5, 26 USPQ2d at 1646 & n.5; *see Carroll Touch, Inc. v. Electro-Mechanical Sys., Inc.*, 15 F.3d 1573, 1582, 27 USPQ2d 1836, 1844 (Fed. Cir. 1993).

[11] Neither the bringing of an unsuccessful suit to enforce patent rights, nor the effort to enforce a patent that falls to invalidity, subjects the suitor to antitrust liability. *Cf. Concrete Unlid. Inc. v. Cementcraft, Inc.*, 776 F.2d 1537, 1539, 227 USPQ 784, 785 (Fed. Cir. 1985) (no liability for unfair competition based on suit to enforce an invalid patent). Since a principal purpose of the patent system is to provide inventors with a property right upon which investment and other commercial commitments can be made, absent the *PRE* criteria the patentee must have the right of enforcement of a duly granted patent, unencumbered by punitive consequences should the patent's validity or infringement not survive litigation. *See id.* The law recognizes a presumption that the assertion of a duly granted patent is made in good faith, *see Virtue v. Creamery Package Mfg. Co.*, 227 U.S. 8, 37-38 (1913); this presumption is overcome only by affirmative evidence of bad faith. *See PRE, supra.*

M3 Systems states that Bard knew its patents were not infringed when it brought suit, citing the testimony of a Bard engineer that he did not think the original M3 needle infringed the '056 patent and that other Bard employees had told him that M3 changed its needle design to one that did not infringe. The engineer also testified that he did not know whether those who told him M3's needles did not infringe had ever read the '056 patent, or whether they were familiar with the concept of infringement under the doctrine of equivalents. This was the totality of the evidence of sham litigation concerning the '056 patent; there was no evidence at all with respect to the '308 patent.[8] This does not constitute substantial evidence that this litigation was objectively meritless and brought in bad faith. The judgment of antitrust violation can not be upheld on sham litigation grounds.

C. *Attempt to Monopolize*[9]

M3 Systems proposed that Bard had modified its biopsy gun and needles for the purpose of preventing use of Tru-Cut needles and then to exclude M3's copies so that they did not fit the gun without an adapter. M3 contends that Bard's motives were anti-competitive, pointing to Bard documents showing internal discussions of competitive products and concern for patent scope and market share. Bard replies that the Tru-Cut was not suitable for its new gun because it could not achieve reverse motion, and points out that M3's witness acknowledged that M3 could effectively compete, as were several other producers of biopsy guns and needles.

Bard was under no duty to facilitate M3's competition by refraining from changing its products. The jury instructions did not distinguish patent-supported products and markets based thereon from actions described to the jury as being in restraint of trade. For example, the jury instruction on intent to monopolize was as follows:

> M3 Systems also alleges that it was injured by Bard's unlawful attempt to monopolize. An attempt to monopolize may be proven even if Bard lacks monopoly power, but because of its alleged exclusionary conduct, there exists a dangerous probability that Bard will obtain monopoly power in any market. In order to win on its claims of attempted monopolization, M3 Systems must prove each of the following elements by a preponderance of the evidence:
>
> First, that Bard had a specific intent to achieve monopoly power in a relevant market; second, that Bard engaged in exclusionary or restrictive conduct in furtherance of its specific intent; third, that there

[8] M3 in its brief states that: "The Jury specifically found that BARD had 'actual knowledge' that M3 did not infringe its patents or that the patents were invalid. [A10096; 11-3 ¶¶ 6,11]." There is no specific finding in the verdict form of "actual knowledge." The cites to ¶¶6 & 11 are to the jury's finding of patent misuse, and the jury instructions at A10096 concern the duty of candor to the PTO. The source of the quoted "actual knowledge" is not given. Such misdirections are not helpful to the appellate tribunal; see also note 6, *supra*.

[9] The court has affirmed the district court's judgment of antitrust violation on this ground; see the separate opinion of Judge Bryson, joined by Chief Judge Mayer. This section contains the dissenting opinion of Judge Newman.

was a dangerous probability that Bard would obtain monopoly power in the relevant market; and, fourth, that M3 Systems was injured in its business or property by Bard's conduct.

In explaining further, the district court referred to "exclusionary or restrictive conduct" and "unreasonable acts and practices," again without reference to patented products and their status in the law. Although the court instructed that "conduct that involves the introduction of superior products" is not exclusionary or restrictive, the court also stated that "where conduct is ambiguous, direct evidence of a specific intent to monopolize may lead you to conclude that the conduct was intended to be and was in fact exclusionary or restrictive." No mention was made of the patentee's statutory right to exclude, and there was no instruction to consider that right.

These broadly stated descriptions of exclusionary or restrictive conduct, unlimited by the conditions set in *Walker Process* or *PRE* and taking no cognizance of the legal rights of the patent grant, do not rise to the level of violation of antitrust law. Thus I must, respectfully, dissent from the court's ruling that Bard incurred liability under the Sherman and Clayton Acts by its actions in modifying and improving its patented products, thereby requiring M3 to provide an adapter with its replacement needles for the Bard gun.

The panel majority on this issue holds that the jury verdict of monopoly power must be sustained, although the power held by Bard in this market is based on the patent right. Bard or its predecessor Radiplast changed from the Tru-Cut to a newly designed needle that was capable of reverse movement, thus facilitating removal, inspection, and reinsertion of the inner needle while the cannula remained in place. This needle assembly is the subject of the '056 patent. The record states that M3 was obliged to use an adapter to fit its existing needles to Bard's gun; that is the antitrust ill of which M3 complained. This does not, as a matter of law, present a jury question of violation of the Sherman Act. *See California Computer Prods., Inc. v. International Bus. Mach. Corp.*, 613 F.2d 727, 744 (9th Cir. 1979) (when the innovation is an improvement, that it affects competition is not an antitrust violation, and no jury question arises).

Both the needle assembly alone and the integrated biopsy gun/needle device were patented. They were subject to Bard's patent-based rights to exclude others from making, using, or selling them. It was not Bard's changes to its biopsy gun or needles that affected M3's sale of replacement needles; it was the patents on these products. To hold that Bard could violate the Sherman Act by changing these products, if M3's business was adversely affected, is a novel and pernicious theory of antitrust law that is contrary to the principles of competition, and fraught with litigation-generating mischief.

Despite this court's recent affirmation in *Virginia Panel Corp. v. MAC Panel Co.*, 133 F.3d 860, 873-74, 45 USPQ2d 1225, 1236 (Fed. Cir. 1997) that "a patentee may lawfully police a market that is effectively defined by its patent," this court now holds that changing and improving one's proprietary product that has created its own market niche, if to a competitor's potential disadvantage, is actionable under the Sherman Act. The competition-favoring rule is that an innovator has no duty to help its competitors: "It is the possibility of success in the marketplace, attributable to superior performance, that provides the incentives on which the proper functioning of our competitive economy rests." *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 281 (2d Cir. 1979). In *California Computer* the court observed that "[IBM] was under no duty to help CalComp or other peripheral equipment manufacturers survive or expand." 613 F.2d at 744. This court has today created a new, vague, and unworkable cause of action, of clear public detriment, with no balancing public benefit.

The concept that antitrust law should bar an innovator from making changes or improvements to its products, when others may be affected thereby, is not brand new. However, cases where this issue has been litigated have been of a different order of competitive impact than here asserted; and I have found no case in which such a charge has been sustained. In *In re IBM Peripheral EDP Devices Antitrust Litig.*, 481 F. Supp. 965, 1002-05 (N.D. Cal. 1979), *aff'd sub nom. Transamerica Computer Co. v. International Bus. Mach. Corp.*, 698 F.2d 1377 (9th Cir. 1983), cited by the panel majority, the district court declined to assess liability for IBM's interface changes that prevented use of competitors' peripheral devices when "the contested changes were improvements in the products, were not unreasonably restrictive of competition, and hence did not violate the Sherman Act." *Id.* at 1382.

A basic premise of patent law, and antitrust law in general, is that the commercial advantage gained by new technology, and its statutory protection by patent, do not convert the possessor thereof into a prohibited monopolist. In *United States v. Grinnell*

Corp., 384 U.S. 563, 570-71 (1966) the Court distinguished the willful acquisition or maintenance of monopoly power from "growth or development as a consequence of a superior product, business acumen, or historic accident." *See also Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 1, 37 n.7 (1984) ("A common misconception has been that a patent or copyright, a high market share, or a unique product that competitors are not able to offer suffices to demonstrate market power.") (O'Connor, J., concurring); *A.I. Root Co. v. Computer/Dynamics, Inc.*, 806 F.2d 673, 676 (6th Cir. 1986) (rejecting "any absolute presumption of market power for copyright or patented product").

When the market for new technology is protected by patent, to violate the antitrust law there must be an improper use of the patent right, "coupled with violations of §2." *Walker Process*, 382 U.S. at 177-78, 147 USPQ at 407. In *Walker Process* the Court again explained that a patent does not of itself establish a presumption of market power in the antitrust sense. *Id.* at 178, 147 USPQ at 406. In *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1367, 220 USPQ 763, 776 (Fed. Cir. 1984), this court wrote that "patent rights are not legal monopolies in the antitrust sense of the word." Yet in the case now before us the jury was asked to determine simply whether Bard had monopoly power in a relevant market, without reference to whether the "exclusionary conduct" of which M3 complained was the conduct of the patent law.

M3 did not allege the elements of an antitrust violation when patents are involved. *See, e.g., Double D Spotting Service, Inc. v. Supervalu, Inc.*, 136 F.3d 554, 558 (8th Cir. 1998) (" 'The essential elements of a private antitrust claim must be alleged in more than vague and conclusory terms to prevent dismissal of the complaint on a defendant's [Rule] 12(b)(6) motion.' ") (quoting *Crane & Shovel Sales Corp. v. Bucyrus-Erie Co.*, 854 F.2d 802, 805 (6th Cir. 1988)); *Okusami v. Psychiatric Institute of Washington, Inc.*, 959 F.2d 1062, 1065 (D.C. Cir. 1992) ("[T]he plaintiff's antitrust claims, lacking the essential element of an agreement, were properly dismissed for failure to state a claim upon which relief could be granted.") Dismissal for failure to state a claim was the proper response to M3's undifferentiated assertion of anticompetitive practices.

I need not elaborate on the litigation opportunity affecting innovation-based industry, that is here so casually enabled. "Where competitors' products must interface with the monopolist's product the monopolist's introduction of a new product that makes that interconnection more difficult or expensive might violate Section 2, although *no court has specifically so held.*" 1 American Bar Assoc., *Antitrust Law Developments* 286 (4th ed. 1997) (emphasis added). As a sister circuit recently stated, "Antitrust scholars have long recognized the undesirability of having courts oversee product design, and any dampening of technological innovation would be at cross-purposes with antitrust law." *United States v. Microsoft Corp.*, 147 F.3d 935, 948 (D.C. Cir. 1998).

The proceedings at trial, and the jury instructions, made no mention of the patent rights here present. It is without precedent to find antitrust liability premised on a theory that development of new products is illegally anticompetitive when the new product requires competing suppliers to adjust their product accordingly. Commentators who have considered the question of "whether product innovation can ever be unlawfully 'predatory' " have concluded that "no administrable rule could be fashioned that would not exact an unreasonably heavy toll." 3 Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law* §705b (rev. ed. 1996). If this court deems it appropriate to add this burden to patent-based innovation, there should at least be some overriding public benefit. However, antitrust jurisprudence has well understood that the enforcement of the antitrust laws is self-defeating if it chills or stifles innovation. *See IBM Peripherals, supra.*

Neither the jury instructions nor the special interrogatories framed a charge of predatory conduct that comports with established criteria of antitrust liability. It appears that this charge at trial was cobbled together from left-over allegations of bad acts by bad actors. Indeed, M3's antitrust counterclaims mention only *Walker Process* fraud and sham litigation, which all members of this panel agree were not established. I can not discern, in the law or in the record of this case, either legal or factual support for this new form of antitrust liability.

VII

MISUSE: OTHER ISSUES

The defense of patent misuse arises from the equitable doctrine of unclean hands, and relates generally to the use of patent rights to obtain or to coerce an unfair commercial advantage. Patent misuse relates primarily to a patentee's actions that affect competition in unpatented goods or that otherwise

extend the economic effect beyond the scope of the patent grant. *See Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 703-04, 24 USPQ2d 1173, 1176 (Fed. Cir. 1992) ("The concept of patent misuse arose to restrain practices that did not in themselves violate any law, but that draw anticompetitive strength from the patent right, and thus were deemed to be contrary to public policy.")

Patent misuse is viewed as a broader wrong than antitrust violation because of the economic power that may be derived from the patentee's right to exclude. Thus misuse may arise when the conditions of antitrust violation are not met. *See Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 140-41, 161 USPQ 577, 597 (1969). The key inquiry is whether, by imposing conditions that derive their force from the patent, the patentee has impermissibly broadened the scope of the patent grant with anticompetitive effect. *See Virginia Panel Corp. v. MAC Panel Co.*, 133 F.3d 860, 868, 45 USPQ2d 1225, 1231-32 (Fed. Cir. 1997); *B. Braun Medical, Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426, 43 USPQ2d 1896, 1902 (Fed. Cir. 1997); *Mallinckrodt*, 976 F.2d at 704, 24 USPQ2d at 1176.

The jury returned special verdicts that Bard had misused both the '056 and '308 patents. Patent misuse arises in equity, and a holding of misuse renders the patent unenforceable until the misuse is purged; it does not, of itself, invalidate the patent. *See Morton Salt Co. v. G. S. Suppinger Co.*, 314 U.S. 488 [52 USPQ 30] (1942); *Senza-Gel Corp. v. Seiffhart*, 803 F.2d 661, 668 n.10, 231 USPQ 363, 368 n.10 (Fed. Cir. 1986). When a jury has determined that patent misuse occurred we review the underlying findings of fact for support by substantial evidence, presuming that the jury resolved any factual disputes in favor of the verdict winner. We then determine whether, on the found or presumed facts, the conclusion on the issue of misuse is correct. *See Virginia Panel*, 133 F.3d at 868, 45 USPQ2d at 1231-32.

The jury instruction on patent misuse was focussed primarily on the charge that Bard was attempting to enforce the patents against goods known not to be infringing, the court explaining that antitrust violation is not necessary to find misuse if patents have been used "wrongfully" to exclude competitors:

> A patent is unenforceable for misuse if the patent owner attempts to exclude products from the marketplace which do not infringe the claims of the patent and the patent owner has actual knowledge that those products do not infringe any claim of the patents. The patent is also unenforceable for misuse when a patent owner attempts to use the patent to exclude competitors from their marketplace knowing that the patent was invalid or unenforceable.
>
> A patent will not be rendered unenforceable for misuse if the patent owner has enforced the patent in the good faith belief that the accused products infringed the patent's claims.
>
> You may consider all aspects of the conduct of the patent owner in deciding whether a patent has been misused. In order to find misuse, you may not determine that — you need not determine that an antitrust violation has been proved. Even if an antitrust violation has not been proven, you may still find that the patents have been misused if you conclude that the patents have been used wrongfully.

This instruction calls to mind the view expressed in *USM Corp. v. SPS Techs., Inc.*, 694 F.2d 505, 510, 216 USPQ 959, 963 (7th Cir. 1982) that the misuse doctrine is "too vague a formulation to be useful." Although the defense of patent misuse indeed evolved to protect against "wrongful" use of patents, the catalog of practices labelled "patent misuse" does not include a general notion of "wrongful" use. *See id.* ("in application, the doctrine has largely been confined to a handful of specific practices").

M3 Systems did not propose any of the classic grounds of patent misuse, such as tying or enforced package licensing or price restraints or extended royalty terms, *see* Chisum, *supra*, §19.04[3], but generally urged the view that Bard's actions, even if not illegal, were an improper use of patents. Although the law should not condone wrongful commercial activity, the body of misuse law and precedent need not be enlarged into an open-ended pitfall for patent-supported commerce.

[12] There was no evidence that Bard's competitive activities were either per se patent misuse or that they were not "reasonably within the patent grant." *See Mallinckrodt*, 976 F.2d at 708, 24 USPQ2d at 1180. The conduct to which the jury instruction on misuse generally refers, that is, "wrongful" enforcement of patents, is activity protected under *Noerr* and *California Motor*, and is not subject to collateral attack as a new ground of "misuse." M3 Systems adduced no evidence of patent misuse other than was presented for its antitrust claims. It is not patent misuse to bring suit to enforce patent rights not fraudulently obtained, nor is otherwise legal competition such behavior as to

warrant creation of a new class of prohibited commercial conduct when patents are involved.

The verdicts of patent misuse are not supported by evidence or correct legal theory. The judgment on these verdicts is reversed.

Other Arguments/Issues

We have not discussed every minor argument and issue raised in this appeal. All have been considered, and we have discussed those of relevance. With respect to Bard's frequent references to jury prejudice resulting from disclosure to the jury of Bard's recent civil penalties and criminal convictions for several violations of Food and Drug Administration laws and regulations, we take note that no motion for a new trial was made on this ground, and the issue is not before us for review.

Costs

No costs.

AFFIRMED IN PART, REVERSED IN PART, VACATED IN PART, AND REMANDED.

Mayer, C.J., concurring-in-part and dissenting-in-part.

I join the court's opinion as it pertains to the validity and infringement of the '308 patent, and agree that the jury's verdict on fraud cannot stand. I join Judge Bryson's opinion sustaining the jury verdict on M3's antitrust counterclaim and remanding. My views on the validity of the '056 patent follow.

By special interrogatory, a jury found each of the disputed claims of the '056 patent invalid because the claimed invention was on sale in the United States more than one year before July 30, 1986, the filing date of the '056 patent's parent application. M3 Systems presented the jury with two reasons why the invention may be invalid for violation of the on sale bar: a transfer from Radiplast to Pharmaseal of 250 needles in June 1985 and an offer from Radiplast to Dr. Ronald Phelps in November 1984. We may affirm the invalidity verdict on either basis. *See, e.g., Ethicon Endo-Surgery, Inc. v. United States Surgical Corp.*, 93 F.3d 1572, 1582, 40 USPQ2d 1019, 1027 (Fed. Cir. 1996). Because I believe that the jury had substantial evidence that Radiplast placed the invention claimed in the '056 patent on sale in November 1984, I would sustain the jury's verdict of invalidity.

Discussion

An inventor who places his invention "in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States" loses his right to patent the invention. 35 U.S.C. § 102(b) (1994). A determination that a product was placed on sale under section 102(b) is a question of law, based on underlying facts. *See, e.g., KeyStone Retaining Wall Sys. Inc. v. Westrock, Inc.*, 997 F.2d 1444, 1451, 27 USPQ2d 1297, 1303 (Fed. Cir. 1993). While we review the trial court's ultimate determination of a section 102(b) bar *de novo*, *see, e.g., Ferag AG v. Quipp, Inc.*, 45 F.3d 1562, 1566, 33 USPQ2d 1512, 1515 (Fed. Cir. 1995); *U.S. Environmental Products Inc. v. Westall*, 911 F.2d 713, 715, 15 USPQ2d 1898, 1900 (Fed. Cir. 1990), in considering its denial of Bard's motion for judgment as a matter of law, we review the jury's verdict, as did the trial court, for substantial evidence. *See, e.g., Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 619, 225 USPQ 634, 636 (Fed. Cir. 1985); *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1513, 220 USPQ 929, 936 (Fed. Cir. 1984). "'Substantial' evidence is such relevant evidence from the record taken as a whole as might be accepted by a reasonable mind as adequate to support the finding under review." *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984).

We are guided in our review of the legal conclusion by principles underlying the on sale bar: broad and prompt disclosure of inventions to the public; providing opportunity to experiment, improve, and determine the market value of inventions; discouraging inventors from withdrawing inventions that the public has already come to believe are freely available; and discouraging commercialization that expands the patent system's grant of the right to exclude others. *See, e.g. Envirotech Corp. v. Westech Eng'g, Inc.*, 904 F.2d 1571, 1574, 15 USPQ2d 1230, 1232 (Fed. Cir. 1990); *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860, 226 USPQ 402, 407 (Fed. Cir. 1985); *General Electric Co. v. United States*, 654 F.2d 55, 61, 211 USPQ 867, 873 (Ct. Cl. 1981). Because the ultimate determination of whether an on sale bar exists rests on the totality of the circumstances, that is, on consideration of the unique facts of each transaction or event, no one factor necessarily controls. *See, e.g., Ferag*, 45 F.3d at 1566, 33 USPQ2d at 1515. Nevertheless, we have held that "[f]oremost among these is the policy of preventing inventors from exploiting the commercial value of their inventions while deferring the beginning of the statutory term. To this end, the inventor is strictly held to the requirement that he file his patent application within one year of any attempt to commercialize the invention." *Ferag*, 45 F.3d at 1566, 33 USPQ2d at 1515 (internal citation omitted). The inventor is entitled to the full benefit of the patent regime; the public is entitled to full, timely disclosure of the protected invention.

We are likewise guided in our review by the principle that we must presume facts necessary to support the jury verdict. *See, e.g., Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Given the on sale bar verdict, we assume the jury found that Radiplast made a definite offer to sell certain subject matter and that this subject matter "fully anticipated the claimed invention or would have rendered the claimed invention obvious by its addition to the prior art." *UMC Elec. Co. v. United States*, 816 F.2d 647, 656, 2 USPQ2d 1465, 1472 (Fed. Cir. 1987); *see also LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1071, 22 USPQ2d 1025, 1028 (Fed. Cir. 1992). Thus, on review we must affirm the verdict of invalidity of the '056 patent if these factual findings are supported by substantial evidence, and within the context of the various policies underlying the on sale bar, the totality of circumstances supports the ultimate legal conclusion.

I. Offer for Sale

On September 25, 1984, Ronald Phelps, an Alabama medical doctor, sent Radiplast AB a letter that stated: "I am interested in learning more about the new device for percutaneous needle biopsy pictured on the enclosed brochure. I would appreciate it if you would send me all the information you have pertaining to the instrument. Also, please include a price list. Thank you." Phelps included with this letter a brochure entitled "Radi-biospy device, a new device for percutaneous needle biopsy." This brochure described previously existing technology and then stated:

> A new device has been constructed in order to improve this biopsy method. With the aid of this instrument the biopsy procedure can be carried out with one hand, and as the movements of the obturator and cannula are automatized, better tissue specimens are obtained. All biopsies can be performed by one examiner under dynamic ultrasonic control, or under fl[uo]roscopy.
>
> The new device consists of a spring-trigger system for firing the two different parts of the needle — the cannula and the obturator.
>
> It is constructed of alloyed brass and, like the pressure rod, can be autoclaved.
>
> See special instructions before using.
>
> Manufactured by . . . RADIPLAST AB.
>
> . . .

By way of its managing director, Thomas Engström, Radiplast, replied as follows to Phelps' letter on November 12, 1984:

> We thank you for your letter of [S]ept. 25[,] 1984 and for your interest in our BIOPSY DEVICE. I am truly sorry for my late reply.
>
> Our generation No. 2 of the device will we, together with our new biopsy needles suitable for the device, start marketing in USA beginning of __85, at the moment we do not know through which company. *If you do not want to wait* until we have our representation in USA arranged, *you can allways [sic] order the device* directly from us.
>
> Our price for the device *is* SEK 9.900, — and for the needles SEK 75, — /ea.
>
> The device *is* reusable and can be autoclaved. Very little service has to be done on the device due to reliable design. The needles *are* dispo[s]able and are designed to suit the device.
>
> I am enclosing leaflet and article.
>
> I am looking forward to hearing from you.

(Emphasis added).

The Radiplast brochure that Phelps sent to Radiplast describes a device that can be operated with one hand, by one operator, leaving the physician's other hand free to operate the ultrasound or fluoroscopy equipment. The brochure describes both parts of the needle as automatized by way of a spring-trigger system. It describes the construction materials used to manufacture the device as well as a procedure by which it can be cleaned. In short, the brochure can be understood to describe either a first generation prior art device or the second generation device described in the '056 patent.

Despite this ambiguity, Engström's reply to Phelps' letter in November 1984 is far more telling both in what it said and when it said it. His letter explicitly refers to the second generation device and "new biopsy needles suitable for the device." Since the second generation device requires a needle that moves both forward and rearward, unlike the prior art TruCut needle, Engström's letter is a clear offer for sale of the second

generation device and new biopsy needles. With the exception of a reference to marketing efforts being made in the United States and the possibility of sales through a United States distributor thereafter, this letter was written entirely in the present tense.

The letter was also written after a series of correspondence between Radiplast and Hart Enterprises, a United States medical device manufacturer, addressing tooling and manufacturing costs for these new biopsy needles. On September 4, 1984, Engström had written: "Enclosed please find . . . a drawing on the biopsy needle. The stainless steel parts are not the final ones, there could be changes in length, diam. and the design of the point." On September 28, 1984, Hart Enterprises responded: "[E]nclosed are two drawings, one of the Stylet Hub and one of the Cannula Hub for your Radiplast Biopsy Needle. If you approve these concepts we will proceed to make a prototype, and then production of the molds." Radiplast replied on October 18, 1984: "Biopsy needles: Enclosed please find our order for tooling and engineering. We approve your design of the plastic parts. The dimension from the top surface to center line of both cannula and stylet should be 4.2 mm. Regarding the needles we will probably start with 2.000 — 3.000 units bulk packed." Less than one month later, Engström sent Phelps the November 12, 1984, letter.

These facts alone are sufficient support for the jury's verdict that there was a definite offer for sale of something more than the TruCut prior art or first generation needles. However, to apply the on sale bar, the jury also had to decide whether this offer for sale of new biopsy needles was an offer of the invention claimed in the '056 patent. We review this second presumed factual finding for substantial evidence, and like the district court on its denial of Bard's motion for judgment as a matter of law, we also consider whether there may be policy considerations against imposing the on sale bar.

II. Offer of the Claimed Invention

Bard claims that Radiplast's November 1984 offer to sell second generation devices and new biopsy needles cannot trigger the bar because at that time no operable device had been made, FDA approval had not been obtained, Radiplast had not conducted clinical testing, it had not found a United States distributor, and it had not developed a final needle design. Bard misapprehends the legal significance of each of these. Clinical testing is not required before a sale can bar patent rights. Nor can subsequent clinical testing excuse a prior sale, if what was offered for sale was the claimed invention. Clinical testing is merely one possible policy reason why a particular sale might be excused from the bar. Since Radiplast did not contemplate sales to Engström for testing purposes, the possibility of subsequent clinical testing is of no moment. Likewise, FDA approval is not required before a sale can bar patent rights. Even an illegal sale of the claimed invention before the critical date can bar patent rights. Nor is a domestic distributor relevant to the on sale bar inquiry; a sale by a foreign distributor, from a foreign country to the United States can bar patent rights. *See, e.g., In re Vaceney*, 761 F.2d 671, 676-77, 226 USPQ 1, 4 (Fed. Cir. 1985).

The first of Bard's two remaining arguments — that no operable device had been made — is a feint because manufacture of an operable device is not a prerequisite for application of the on sale bar. *See, e.g., Barmag Barmer Maschinenfabrik AG v. Murata Machinery, Ltd.*, 731 F.2d 831, 837, 221 USPQ 561, 565 (Fed. Cir. 1984). While operability may or may not be relevant, *see, e.g., UMC*, 816 F.2d at 656, 2 USPQ2d at 1472 (reduction to practice is not a requirement for application of the on sale bar), manufacture of an operable device alone is not, *see, e.g., Continental Plastic Containers v. Owens Brockway Plastic Products, Inc.*, 141 F.3d 1073, 1078-79, 46 U.S.P.Q.2d 1277, 1281 (Fed. Cir. 1998) (declining to extend exception from public use bar under section 102(b) in design patent case). Operability is relevant only to the extent it demonstrates that a claimed element of the invention had not yet been invented, or the inventors did not know they had a workable invention and thus had nothing to offer for sale. *See, e.g., Petrolite Corp. v. Baker Hughes, Inc.*, 96 F.3d 1423, 1427, 40 USPQ2d 1201, 1204 (Fed. Cir. 1996) ("[T]he thrust of the on-sale inquiry is whether the inventor thought he had a product which could be and was offered to customers, not whether he could prevail under the technicalities of reduction to practice . . . ." (quoting *Paragon Podiatry Lab., Inc. v. KLM Lab., Inc.*, 984 F.2d 1182, 1187 n.5, 25 USPQ2d 1561, 1570 n.5 (Fed. Cir. 1993)). Bard has not asserted the second circumstance, and as explained below, the alterations made after the offer for sale to Phelps did not address inventive aspects of the '056 patent's new biopsy needle.

As support for its remaining contention — that it had not developed the final design of the biopsy needle — Bard points to Engström's testimony, as managing director of Radiplast, and correspondence between Radiplast, American Pharmaseal, (one of Radiplast's potential distributors in the United States), and Alan Taylor (president of Hart Enterprises). Each of these letters was sent after the November 1984 offer for sale to Phelps, and each evidences continued testing of and proposed modifications to the second generation device and the new biopsy needles.*

Engström testified that American Pharmaseal's research and development laboratories conducted in-house testing. A technical report produced after this testing says that "testing [was] to insure functionality of the spring loaded activatior, the Biopty® device, and the needle before releasing them to the field trial." As a result of its testing, American Pharmaseal recommended: "increas[ing] the strength of the stylet handle design and add[ing] the buffing operation to cannula grinding process." Engström testified that this advice was "to, how do you say, make some changes on the plastic parts and also the — what do you call that — well, the, for some plastic parts broke actually, so we put some, a stopper in the second generation device to prevent, if that happened, to prevent the stylet to go further on." Engström testified that on American Pharmaseal's advice, Radiplast added a "stop" to the second generation device, after the offer to Phelps.

Engström also testified that Radiplast conducted field trials in December 1985, from which it learned that "there was a potential risk for this one snapping back and hurt the doctor's hand," and "many patients thought the noise of the instrument was very disturbing." As a result, Radiplast added "an automatic retraction, a spring, actually, which took this handle back," and "some damping things, you know, to reduce the noise of the instrument." After these field trials, Engström sent a letter to Hart Enterprises on January 15, 1985, which stated: "The needle should be changed according to our phone discussion, which means that the wings of the cannula hub should have the same length. Both should be as long as the shortest wing." A letter from Hart Enterprises to Engström on January 25, 1985, enclosed three drawings that show "[t]he cannula and stylet hub dimensions are identical to the drawings and prototype you had previously received, with the exception that the cannula hub wings are now [sym]metrical."

This evidence suggests that Radiplast modified the second generation device by altering the strength of the stylet handle design, adding a buffing operation to the cannula grinding process, a stopper, automatic retraction via a spring, damping to reduce noise, and equal length symmetrical cannula hub wings as long as the shortest wing. However, Bard cannot avoid the on sale bar merely by showing improvements to the invention after its commercialization. *See, e.g., Seal-Flex, Inc. v. Athletic Track and Court Constr.*, 98 F.3d 1318, 1324, 40 USPQ2d 1450, 1454-55 (Fed. Cir. 1996). These changes must be something more than obvious mechanical adjustments; they have to be inventive redesigns that are claimed by the '056 patent. While some of Radiplast's changes resulted in different possible embodiments of, or additions to, the new biopsy needle that is claimed by the '056 patent, none of the changes are claimed in the text of the '056 patent. Moreover, contrary to Bard's contentions, its evidence suggests at the very least that Radiplast had "reason to expect" in November 1984, that its needle "would work for its intended purpose upon completion," *Micro Chemical, Inc. v. Great Plains Chemical Co., Inc.*, 103 F.3d 1538, 1545, 41 USPQ2d 1238, 1244, and that Radiplast had more than a mere conception from which it was working towards development, *see UMC*, 816 F.2d at 657, 2 USPQ2d at 1472.

Because Bard's evidence shows nothing beyond unclaimed mechanical adjustments to the needle design claimed in the '056 patent after the November 1984 offer for sale of new biopsy needles, the jury had substantial evidence in support of its finding that the November 1984 offer for sale generated a statutory bar. *See, e.g., Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1167, 42 USPQ2d 1619, 1623 (Fed. Cir. 1997). A contrary view would attribute to the '056 patent additional limitations taken from later developed commercial embodiments. Because the claimed invention had been completed, Engström's new biopsy needle design calls for an outcome different from *Robotic Vision*, 112 F.3d 1163, 42 USPQ2d 1619 (remanded for further fact finding on the completion date of a computer software program), *Micro Chemical*, 103 F.3d at 1544, 41 USPQ2d at 1243 (only a proposed configuration existed and the invention remained to be completed), and *Shatterproof Glass*, 758 F.2d at 623, 225

*Reliance on Engström's trial testimony is inherently less reliable than contemporaneous documentary evidence. *Cf. TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 972, 220 USPQ 577, 583 (Fed. Cir. 1984) (inventor's expressions of "subjective intent . . . particularly after institution of litigation, is generally of minimal value").

USPQ at 640 (a reasonable jury could have found that "apparatus and method of the claims were not functional").

III. Policy Considerations

Other than the need for sufficient time to test the new biopsy needle design, which is not a policy consideration summoned by the November 1984 offer, Bard has not argued that there are policy considerations weighing against imposition of the on sale bar. Since the policies that underlie the bar focus on the inventors attempts to exploit the invention, not whether a potential purchaser was made aware of or understood it, discussion of Phelps' actual knowledge of the details of the invention or the differences between generations of the biopsy gun is irrelevant. *See, e.g., Ferag*, 45 F.3d at 1568, 33 USPQ2d at 1516 ("We emphasize that this is an objective test, and that at its heart lies the inventor's attempt to commercialize the invention . . . . [T]he measure of the bar is what was offered, not the patentee's intent.") In light of the strong policy of preventing exploitation of the commercial value of an invention while deferring commencement of the statutory term, I would affirm the jury's application of the on sale bar.

Bryson, J., concurring in part and dissenting in part.

I concur in the portion of the court's opinion upholding the jury's verdict of non-infringement of the '308 patent. I also concur in the portions of the court's opinion reversing the district court's judgment that the '308 patent is invalid, and overturning the jury's verdict on the issue of fraud. Accordingly, I join parts II-V, VI.A-B, and VII of Judge Newman's opinion.

With respect to portions of the judgment relating to the '056 patent, I agree with Chief Judge Mayer that the '056 patent is invalid under the "on-sale bar" of 35 U.S.C. § 102(b), although I take a somewhat different analytical path to that conclusion, as discussed below. Because I conclude that the '056 patent is invalid based on the on-sale bar, I do not reach the other grounds on which the jury found the '056 patent invalid.

Finally, Chief Judge Mayer and I agree that the jury verdict on M3's antitrust counterclaim must be affirmed. Because we do not uphold all of the grounds on which the jury found liability, however, we conclude that the jury may have improperly assessed damages on liability grounds that cannot stand. We therefore must remand for further proceedings to determine the proper amount of damages to be assessed on the antitrust counterclaim.

I

With respect to the on-sale bar, I believe that the June 1985 sale of 250 needles from Radiplast to Pharmaseal was sufficient to support the jury's verdict that the asserted claims of the '056 patent were rendered invalid by a sale more than one year before July 30, 1986, the effective filing date of the patent. It is undisputed that the needles sold in June 1985 embodied the invention of the '056 patent. Whether that sale was sufficient to invoke the on-sale bar turns on whether the sale falls within the "experimental purpose" exception to the on-sale bar.

A

In the summer of 1984, Radiplast began looking for a company "to distribute and promote the sales of [its] biopsy instruments in the United States." Pharmaseal, a potential distributor of the instruments, sent a telex to Radiplast stating that "before any formal purchasing plans can be made," it would have to conduct field trials "to determine the performance and specimen quality of your biopsy device and disposable needle." Pharmaseal sent letters to several hospitals in December 1984 inviting them to participate in a "field trial as a potential sales/distribution system for Radiplast devices."

Radiplast responded by telex on January 21, 1985, setting a price for the needles to be used in Pharmaseal's field trial and offering large-quantity discounts for batches of up to 50,000 needles. Radiplast's telex stated that "in order to be able to deliver both needles and instruments in beginning of March [1985], we need a [telex] order, preferably this week." It also stated that "we have to meet and discuss more in detail all things related with the marketing of our biopsy instrument in U.S." With respect to Pharmaseal's proposed field trial, Radiplast merely suggested that "if you would like [Dr. Lindgren, the inventor] to visit the hospitals performing the trial, in order to help them get started, he will be happy to help you."

Pharmaseal agreed to purchase the instruments and, on March 28, 1985, placed an order for 10 biopsy guns and 250 needles from Radiplast. The instruments were shipped in June 1985. It is undisputed that the June 1985 transaction constituted a sale and that the needles sold at that time embodied the invention of the '056 patent.

Pharmaseal conducted in-house testing of the devices in July 1985 before releasing the products to hospitals for the field trials. Following the in-house testing, Pharmaseal reported only minor problems and made minor manufacturing suggestions, such as recommending that Radiplast strengthen the stylet hub design and add a buffing operation to the cannula grinding process.

Although Bard contends that Dr. Lindgren attended some of the field trials and that Radiplast "was continually advised by Pharmaseal of [their] progress," Dr. Lindgren testified that he did not exercise any control over the tests, that he did not recall ever seeing the instrument used during a test, and that he did not receive or maintain any data from the tests. Bard appears to concede that the test results were not maintained in confidence, and it points to no evidence showing that the primary purpose of the tests was to ensure that the claimed features of the invention would operate as intended.

The field testing was performed at the behest of Pharmaseal, the purchaser, not Radiplast or the inventor. Pharmaseal "assumed primary responsibility" for the tests, while Radiplast merely "had an ongoing interest" in the progress of the trials and "was kept informed" of the progress of the field trials. During the field trials, Pharmaseal and Radiplast continued to discuss market potential, potential prices and volumes, and an instructional videotape to teach proper use of the instruments.

B

Bard argues that the jury verdict cannot stand because the in-house testing at Pharmaseal and the hospital field trials show that the sale was for experimental testing purposes. The so-called "experimental testing" exception to the on-sale bar applies only if commercial exploitation is "merely incidental to the primary purpose of experimentation to perfect the invention." *Barmag Barmer Maschinenfabrik AG* v. *Murata Mach., Ltd.*, 731 F.2d 831, 839, 221 USPQ 561, 567 (Fed. Cir. 1984). In determining whether the inventor made the sale in question for purposes of determining whether the invention would work for its intended purpose, a court must consider various factors, such as the amount of control the inventor exercised over the testing; the length of the test period; whether any payment was made; whether there was a secrecy obligation; whether progress records were kept; whether someone other than the inventor conducted the experiments; and the degree of commercial exploitation during the tests in relation to the purpose of the experimentation. *Baker Oil Tools, Inc.* v. *Geo Vann, Inc.*, 828 F.2d 1558, 1564, 4 USPQ2d 1210, 1214 (Fed. Cir. 1987). Certain factors, such as the requirement that the inventor control the testing, that detailed progress records be kept, and that the purported testers know that testing is occurring, are critical to proving experimental purpose. *Lough* v. *Brunswick Corp.*, 86 F.3d 1113, 1120, 39 USPQ2d 1100, 1105 (Fed. Cir. 1996) ("if the inventor has no control over the alleged experiments, he is not experimenting"); *see generally* 2 Donald S. Chisum, *Patents* § 6.02[7][c] (1998).

The evidence shows that Radiplast's primary purpose in making the sale to Pharmaseal was to market the patented invention through Pharmaseal, not to conduct tests to determine whether the claimed invention would work for its intended purpose. Neither the in-house testing at Pharmaseal nor the field trials at hospitals were conducted under the control or supervision of the inventor or Radiplast; instead, the tests were proposed, controlled, and monitored by Pharmaseal, the purchaser. Dr. Lindgren, the inventor, admitted at trial that he had no control over the field trials, that he did not maintain any test data, and that he did not recall receiving any test results. Radiplast was not aware of the identity of the patients in the field tests, the organs that were being biopsied, or the types of tests being performed; indeed, the patients were apparently not even informed that the biopsies were being conducted as part of a test. The hospitals participating in the field trials were told that the trials were intended as "a potential sales/distribution system for Radiplast devices." There is no evidence that any secrecy agreements were made with Pharmaseal, the hospitals, or any of the test participants. Finally, it is undisputed that Pharmaseal paid for the instruments and needles used in the tests. All of these factors point away from the conclusion that the sale was made for purposes of experimentation. *See Western Marine Elecs., Inc.* v. *Furuno Elec. Co.*, 764 F.2d 840, 846, 226 USPQ 334, 339 (Fed. Cir. 1985) (no experimental use where evidence pointed to market testing rather than experimentation).

Significantly, at the time of the sale of 250 needles in June 1985, Radiplast had an open offer to sell large quantities of needles to Pharmaseal at bulk discount prices. The January 21, 1985, telex had offered batches of up to 50,000 needles for a specific price, and smaller quantities of 10,000 and 20,000 needles for somewhat higher prices. The offer of such large quantities of needles was clearly for commercial, rather than experimental,

purposes, and by June 1985 it was clear that the needles that were being offered to Pharmaseal embodied the later-claimed invention. The bulk purchase offer provides further evidence that the June 1985 sale was not for experimental purposes. *See Seal-Flex, Inc. v. Athletic Track & Court Constr.*, 98 F.3d 1318, 1325, 40 USPQ2d 1450, 1455 (Fed. Cir. 1996) (Bryson, J., concurring) ("if the sale or offer in question embodies the invention for which a patent is later sought, a sale or offer to sell that is primarily for commercial purposes and that occurs more than one year before the application renders the invention unpatentable"). Thus, it appears that Radiplast was marketing the later-claimed needles commercially at least by late June 1985. Its willingness to sell smaller quantities of needles to Pharmaseal to use in its field tests was evidently an accommodation to Pharmaseal, which conducted its own tests before distributing the needles to hospitals and doctors. The fact that Radiplast recognized that Pharmaseal intended to test the needles before distributing them in bulk, however, did not make Radiplast's offer and sale in 1985 any less commercial in nature.

The facts of this case are analogous to those in *U.S. Environmental Products, Inc. v. Westall*, 911 F.2d 713, 15 USPQ2d 1898 (Fed. Cir. 1990). In *Westall*, this court affirmed a district court's conclusion that a patent was invalidated by a sale more than one year before the filing date. That conclusion was based primarily on (1) the lack of written progress records and the failure to adhere to a testing schedule; (2) the inventor's failure to maintain control over the testing; and (3) promotion of the invention during the testing. *Id.* at 717-18. In this case, as in *Westall*, the evidence shows that neither the in-house tests at Pharmaseal nor the field tests at hospitals were under the control of the inventor or his company. There is little or no evidence of any written progress records; indeed, the inventor was apparently never provided with any test results. Finally, the communications between Radiplast and Pharmaseal throughout the purported testing period emphasized commercial sales and projections, not controlled experimentation.

Bard relies heavily on *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 20 USPQ2d 1746 (Fed. Cir. 1991), for the proposition that providing price estimates for future sales does not otherwise vitiate the experimental testing exception. In *Continental*, however, this court noted that "no sales were ever made"; there was a joint development project between two companies to develop the invention; and the project was "cloaked in confidentiality." 948 F.2d at 1269-70, 20 USPQ2d at 1750. Because the circumstances in *Continental* are so different from the circumstances in this case, *Continental* is of no help to Bard.

C

Bard also contends that the Pharmaseal sale cannot constitute a bar under 35 U.S.C. § 102(b) because Radiplast did not make a profit on the transaction. The jury heard testimony, however, suggesting that Radiplast made a 60% profit on the Pharmaseal sale. Even ignoring any actual profit on the devices used in the field trials, it is clear that the Pharmaseal transaction was made primarily to develop a market for future sales, not primarily to test the claimed invention. At any rate, the failure to turn a profit is not determinative. "A patent owner may have created an on-sale bar despite *losing* money on a sale." *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 717, 15 USPQ2d 1898, 1902 (Fed. Cir. 1990).

II

In support of its antitrust counterclaim, M3 presented three theories to the jury: (1) that Bard committed fraud in the procuring its patents (the *Walker Process* theory); (2) that Bard acted in bad faith in enforcing its patents (the "sham litigation" theory), and (3) that Bard modified its Biopty gun for the purpose of preventing its competitors' needles from being used in that gun. Bard challenges the sufficiency of the evidence to support the jury's verdict on each of those three theories. The panel is unanimous in concluding that the evidence is insufficient to support liability on the *Walker Process* and "sham litigation" theories. Chief Judge Mayer and I agree, however, that there is sufficient evidence to affirm the jury's antitrust liability verdict based on Bard's gun modification program, for the reasons set forth below.

A

The jury considered evidence that Bard modified its Biopty gun to prevent its competitors' non-infringing, flangeless needles from being used in Bard's guns. By special verdicts, the jury found that there was a relevant product market for replacement needles for fully automated reusable biopsy guns, that Bard had monopoly power in that market, and that it had acquired or maintained its monopoly power in that market through restrictive or exclusionary conduct.

[13] In order to prevail on its claim of an antitrust violation based on Bard's modification of its Biopty gun to prevent the use of competing replacement needles, M3 was required to prove that Bard made a change in its Biopty gun for predatory reasons, *i.e.*, for the purpose of injuring competitors in the replacement needle market, rather than for improving the operation of the gun. *See In re IBM Peripheral EDP Devices Antitrust Litig.*, 481 F. Supp. 965, 1002 (N.D. Cal. 1979), *aff'd sub. nom. Transamerica Computer Co. v. International Bus. Mach. Corp.*, 698 F.2d 1377 (9th Cir. 1983); *see generally* 1 ABA, *Antitrust Law Developments* 286-87 (4th ed. 1997). Bard argues that the evidence showed that absent patent protection for Bard's devices, M3 could still compete in the relevant market. While the evidence of Bard's market power was in dispute, the jury specifically found that Bard enjoyed monopoly power in the market for replacement needles. The evidence was sufficient to support the jury's verdict on that point and also to support the jury's conclusion that Bard maintained its monopoly position by exclusionary conduct, to wit, modifying its patented gun in order to exclude competing replacement needles.

The dissent on this issue starts from the premise that the modification to Bard's Biopty gun was an "improvement" and argues from that premise that to hold Bard liable for the modification would have the "pernicious" effect of penalizing innovators for making improvements to their products. The dissent's premise, however, is contrary to the jury's verdict, which was supported by the evidence. Although Bard contended at trial that it modified its Biopty gun to make it easier to load and unload, there was substantial evidence that Bard's real reasons for modifying the gun were to raise the cost of entry to potential makers of replacement needles, to make doctors apprehensive about using non-Bard needles, and to preclude the use of "copycat" needles. One internal Bard document showed that the gun modifications had no effect on gun or needle performance; another internal document showed that the use of non-Bard needles in the gun "could not possibly result in injury to either the patient or the physician." In view of that evidence, the jury could reasonably conclude that Bard's modifications to its guns constituted "restrictive or exclusionary conduct" in a market over which it had monopoly power.

The dissent also takes issue with the jury instructions, contending that they failed properly to frame a charge of predatory conduct that comports with established criteria of antitrust liability. Because Bard did not challenge the court's instructions, however, the legal sufficiency of the jury charge on the antitrust issues is not properly before us on appeal. To be entitled to relief based on asserted errors in the court's instructions to the jury, Bard was required to challenge those instructions in this court and demonstrate that it timely objected to those instructions in the district court. Bard did neither, but instead based its argument entirely on the sufficiency of the evidence. Because the evidence is sufficient to support the verdict on the gun modification theory of liability, the jury's liability verdict must stand. *See Mangren Research & Dev. v. National Chem. Co.*, 87 F.3d 937, 942 n.3 (7th Cir. 1996); *Composite Marine Propellers, Inc. v. Van Der Woude*, 962 F.2d 1263, 1265 (7th Cir. 1992).

B

While we affirm Bard's liability on the antitrust counterclaim, that does not necessarily mean that the jury's damage award of $1.5 million can be sustained. M3 presented evidence of three different markets (guns, guns and needles, and replacement needles) in which Bard allegedly caused antitrust injury, and the jury found Bard liable for injury in each market. The damages portion of the verdict, however, merely indicated a general award of $1.5 million without attribution to a particular market or exclusionary practice.

M3's evidence concerning Bard's gun modification program was relevant only to the replacement needle market. Because we have concluded that the evidence concerning Bard's activities in the other two markets cannot support antitrust liability, the question arises as to whether the $1.5 million damages award can be supported solely on the basis of the injury Bard's actions caused to M3 in the replacement needle market. That issue was not briefed on appeal, and the record, so far as we can ascertain, does not provide clear guidance as to the proper allocation of damages due to the injury suffered by M3 in the injury replacement needle market. Consequently, we vacate the antitrust damages award and remand to the district court to consider, after additional hearing or limited retrial, if necessary, the proper amount of damages attributable to Bard's gun modification program. *See MCI Communications Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1166-67 (7th Cir. 1983).

patent violate the written description requirement of section 112, ¶1. But to state the argument is to realize its objection; as we discussed above, the written description of the '835 patent provides ample support for the ordinary and accustomed meaning of the terms of the '835 claims. Thus, the '835 claims, as construed by the district court and this court, are entitled to the benefit of the filing date of the '586 application. No violation of section 102(b)'s on-sale bar has occurred.

IV

Zebco has failed to demonstrate to this court that the disputed claim terms of claim 1 of the '835 patent should be interpreted in a way other than their ordinary and accustomed meaning. Therefore, we find that the district court's claim interpretation, and the summary judgment of infringement conditioned thereon, was not erroneous. We also hold that the district court correctly determined that the relevant claim of the '835 patent, as construed, is not invalid. The judgment of the district court is affirmed.

AFFIRMED.

U.S. Court of Appeals Federal Circuit

In re Dembiczak

No. 98-1498

Decided April 28, 1999

PATENTS

1. Patentability/Validity — Obviousness — Combining references (§115.0905)

Decision rejecting claims in utility application as obvious over combination of prior art references must be reversed, since obviousness analysis in decision is limited to discussion of ways that multiple references can be combined to read on claimed invention, but does not particularly identify any suggestion, teaching, or motivation to combine references, and does not include specific or inferential findings concerning identification of relevant art, level of ordinary skill in art, nature of problem to be solved, or any other factual findings that might support proper obviousness analysis.

2. Patentability/Validity — Anticipation — Double patenting (§115.0708)

Obviousness-type double patenting may be found between design and utility patents in rare cases; but such rejection is appropriate only if claims of two patents cross-read, meaning that subject matter of claims of patent sought to be invalidated would have been obvious from subject matter of claims of other patent, and vice-versa.

3. Patentability/Validity — Anticipation — Double patenting (§115.0708)

Applicants' design patents for bag with jack-o'-lantern face would not have been obvious variants of their pending utility claims directed to trash bag decorated to resemble Halloween pumpkin when filled with trash or leaves, since textual description of "facial indicia" on bag found in claims of utility patent application cannot constitute design reference that is "basically the same as" specific designs claimed in applicants' patentably distinct design patents.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Application of Anita Dembiczak and Benson Zinbarg for utility patent (application serial no. 08/427,732). From decision sustaining rejections of claims in application, applicants appeal. Reversed.

David P. Gordon and Thomas A. Gallagher, Stamford, Conn., for appellants.

John M. Whealan, associate solicitor, Albin F. Drost, acting solicitor, and David R. Nicholson, associate solicitor, Office of the Solicitor, Arlington, Va., for appellee.

Before Mayer, chief judge, and Michel and Clevenger, circuit judges.

Clevenger, J.

Anita Dembiczak and Benson Zinbarg appeal the rejection, upheld by the Board of Patent Appeals and Interferences, of all pending claims in their Application No. 08/427,732. *See Ex Parte Dembiczak*, No. 96-2648, slip op. at 43 (May 14, 1998). Because the Board erred in sustaining rejections of the pending claims as obvious under 35 U.S.C. § 103(a) (Supp. 1998), and for obviousness-type double patenting, we reverse.

I

The invention at issue in this case is, generally speaking, a large trash bag made of orange plastic and decorated with lines and facial features, allowing the bag, when filled with trash or leaves, to resemble a Halloween-style pumpkin, or jack-o'-lantern. As the inventors, Anita Dembiczak and Benson Zinbarg (collectively, "Dembiczak") note, the invention solves the long-standing problem of unsightly trash bags placed on the curbs of America, and, by fortuitous happenstance, allows users to express their whimsical or festive nature while properly storing garbage, leaves, or other household debris awaiting collection. Embodiments of the invention—sold under a variety of names, including Giant Stuff-A-Pumpkin®, Funkins, Jack Sak®, and Bag-O-Fun®—have undisputedly been well-received by consumers, who bought more than seven million units in 1990 alone. Indeed, in 1990, the popularity of the pumpkin bags engendered a rash of thefts around Houston, Texas, leading some owners to resort to preventative measures, such as greasing the bags with petroleum jelly and tying them to trees. *See* R. Piller, "Halloween Hopes Die on the Vine," *Hous. Chron.*, Oct. 19, 1990, at 13A.

The road to profits has proved much easier than the path to patentability, however. In July 1989, Dembiczak filed a utility patent application generally directed to the pumpkin bags. In a February 1992 appeal, the Board of Patent Appeals and Interferences ("the Board") reversed the Examiner's rejection, but entered new grounds for rejection. Dembiczak elected to continue prosecution, filing a continuation application to address the new grounds for rejection. Thereafter, the invention made a second appearance before the Board, in April 1993, when the Board both sustained the Examiner's rejection and again entered new grounds for rejection. Again, a continuation application was filed (the instant application). And again the Examiner's rejection was appealed to the Board, which sustained the rejection in a May 14, 1998, decision. *See Dembiczak*, slip op. at 43.

A

The patent application at issue includes claims directed to various embodiments of the pumpkin bag. Claims 37, 49, 51, 52, 58 through 64, 66 through 69, and 72 through 81 are at issue in this appeal. Though the claims vary, independent claim 74 is perhaps most representative:

> 74.A decorative bag for use by a user with trash filling material, the bag simulating the general outer appearance of an outer surface of a pumpkin having facial indicia thereon, comprising:
> a flexible waterproof plastic trash or leaf bag having
> an outer surface which is premanufactured orange in color for the user to simulate the general appearance of the outer skin of a pumpkin, and having
> facial indicia including at least two of an eye, a nose and a mouth on the orange color outer surface for forming a face pattern on said orange color outer surface to simulate the general outer appearance of a decorative pumpkin with a face thereon,
> said trash or leaf bag having first and second opposite ends, at least said second end having an opening extending substantially across the full width of said trash or leaf bag for receiving the trash filling material,
> wherein when said trash or leaf bag is filled with trash filling material and closed, said trash or leaf bag takes the form and general appearance of a pumpkin with a face thereon.

All of the independent claims on appeal, namely 37, 52, 72, and 74, contain limitations that the bag must be "premanufactured orange in color," have "facial indicia," have openings suitable for filling with trash material, and that when filled, the bag must have a generally rounded appearance, like a pumpkin. Independent claims 37, 52, and 72 add the limitation that the bag's height must at least 36 inches. Claim 72 requires that the bag be made of a "weatherproof material," and claim 74, as shown above, requires that the bag be "waterproof." Claim 52 recites a "method of assembling" a bag with the general characteristics of apparatus claim 37.

B

The prior art cited by the Board includes: (1) pages 24-25 of a book entitled "A Handbook for Teachers of Elementary Art," by Holiday Art Activities ("Holiday"), describing how to teach children to make a "Crepe Paper Jack-O-Lantern" out of a strip of orange crepe paper, construction paper cut-outs in the shape of facial features, and "wadded newspapers" as filling;
(2) page 73 of a book entitled "The Everything Book for Teachers of Young Chil-

dren," by Martha Shapiro and Valerie Indenbaum ("Shapiro"), describing a method of making a "paper bag pumpkin" by stuffing a bag with newspapers, painting it orange, and then painting on facial features with black paint;

(3) U.S. Patent No. 3,349,991 to Leonard Kessler, entitled "Flexible Container" ("Kessler"), describing a bag apparatus wherein the bag closure is accomplished by the use of folds or gussets in the bag material;

(4) U.S. Patent No. Des. 310,023, issued August 21, 1990 to Dembiczak ("Dembiczak '023"), a design patent depicting a bag with a jack-o'-lantern face;

(5) U.S. Patent No. Des. 317,254, issued June 4, 1991 to Dembiczak ("Dembiczak '254"), a design patent depicting a bag with a jack-o'-lantern face; and,

(6) Prior art "conventional" plastic lawn or trash bags ("the conventional trash bags").

Using this art, the Board affirmed the Examiner's final rejection of all the independent claims (37, 52, 72, 74) under 35 U.S.C. § 103, holding that they would have been obvious in light of the conventional trash bags in view of the Holiday and Shapiro references. The Board determined that, in its view of the prior art, "the only difference between the invention presently defined in the independent claims on appeal and the orange plastic trash bags of the prior art and the use of such bags resides in the application of the facial indicia to the outer surface of the bag." *Dembiczak*, slip op. at 18. The Board further held that the missing facial indicia elements were provided by the Holiday and Shapiro references' description of painting jack-o'-lantern faces on paper bags. *See id.* at 18-19. Dependent claims 49 and 79, which include a "gussets" limitation, were considered obvious under similar reasoning, except that the references cited against them included Kessler. *See id.* at 7.

The Board also affirmed the Examiner's obviousness-type double patenting rejection of all the independent claims in light of the two Dembiczak design patents ('023 and '254) and Holiday. *See id.* at 12. The Board held that the design patents depict a generally rounded bag with jack-o'-lantern facial indicia, and that the Holiday reference supplies the missing limitations, such as the "thin, flexible material" of manufacture, the orange color, the initially-open upper end, and the trash filling material. The Board also stated that the various limitations of the dependent claims—*e.g.*, color, the inclusion of leaves as stuffing, and the dimensions—would all be obvious variations of the depictions in the Dembiczak design patents. *See id.* at 8-9. In addition, using a two-way test for obviousness-type double patenting, the Board held that the claims of the Dembiczak design patents "do not exclude" the additional structural limitations of the pending utility claims, and thus the design patents were merely obvious variations of the subject matter disclosed in the utility claims. *See id.* at 11. The Board further upheld, on similar grounds and with the inclusion of the Kessler reference, the obviousness-type double patenting rejection of dependent claim 49. *See id.* at 12.

This appeal followed, vesting this court with jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A) (1994).

II

A claimed invention is unpatentable if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (Supp. 1998); *see Graham v. John Deere Co.*, 383 U.S. 1, 14, 148 USPQ 459, 465 (1966). The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *See Graham*, 383 U.S. at 17-18, 148 USPQ at 467; *Miles Labs., Inc., Inc. v. Shandon Inc.*, 997 F.2d 870, 877, 27 USPQ2d 1123, 1128 (Fed. Cir. 1993). We therefore review the ultimate determination of obviousness without deference to the Board, while examining any factual findings for clear error. *See, e.g., In re Zurko*, 142 F.3d 1447, 1459, 46 USPQ2d 1691, 1700 (Fed. Cir.) (en banc), *cert. granted*, 119 S. Ct. 401 (1998).

A

Our analysis begins in the text of section 103 quoted above, with the phrase "at the time the invention was made." For it is this phrase that guards against entry into the "tempting but forbidden zone of hindsight," *see Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873, 228 USPQ 90, 98 (Fed. Cir. 1985), *overruled on other grounds by Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 46 USPQ2d 1097 (Fed. Cir. 1998), when analyzing the patentability of claims pursuant to that section. Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 UPSQ 303, 313 (Fed. Cir. 1983). Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *Id.*

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination"). *See also Graham*, 383 U.S. at 18, 148 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight. *See, e.g., Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time."). In this case, the Board fell into the hindsight trap.

We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, *see Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), *Para-Ordinance Mfg. v. SGS Imports Intern., Inc.*, 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," *Rouffet*, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. *See, e.g., C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." *E.g., McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact."); *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977) ("The examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection."). In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes, including: (1) clear explication of the position adopted by the Examiner and the Board; (2) identification of the factual disputes, if any, between the applicant and the Board; and (3) facilitation of review on appeal. Here, however, the Board did not make particular findings regarding the locus of the suggestion, teaching, or motivation to combine the prior art references.

[1] All the obviousness rejections affirmed by the Board resulted from a combination of prior art references, *e.g.*, the conventional trash or yard bags, and the Holiday and Shapiro publications teaching the construction of decorated paper bags. *See Dembiczak*, slip op. at 6-7. To justify this combination, the Board simply stated that "the Holiday and Shapiro references would have

suggested the application of . . . facial indicia to the prior art plastic trash bags." *Id.* at 18-19. However, rather than pointing to specific information in Holiday or Shapiro that suggest the combination with the conventional bags, the Board instead described in detail the similarities between the Holiday and Shapiro references and the claimed invention, noting that one reference or the other—in combination with each other and the conventional trash bags—described all of the limitations of the pending claims. *See id.* at 18-28. Nowhere does the Board particularly identify any suggestion, teaching, or motivation to combine the children's art references (Holiday and Shapiro) with the conventional trash or lawn bag references, nor does the Board make specific—or even inferential—findings concerning the identification of the relevant art, the level of ordinary skill in the art, the nature of the problem to be solved, or any other factual findings that might serve to support a proper obviousness analysis. *See, e.g., Pro-Mold & Tool*, 75 F.3d at 1573, 37 USPQ2d at 1630.

To the contrary, the obviousness analysis in the Board's decision is limited to a discussion of the ways that the multiple prior art references can be combined to read on the claimed invention. For example, the Board finds that the Holiday bag reference depicts a "premanufactured orange" bag material, *see Dembiczak*, slip op. at 21, finds that Shapiro teaches the use of paper bags in various sizes, including "large", *see id.* at 22-23, and concludes that the substitution of orange plastic for the crepe paper of Holiday and the paper bags of Shapiro would be an obvious design choice, *see id.* at 24. Yet this reference-by-reference, limitation-by-limitation analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention. *See Rouffet*, 149 F.3d at 1357, 47 USPQ2d at 1459 (noting Board's failure to explain, when analyzing the prior art, "what specific understanding or technical principle . . . would have suggested the combination"). Because we do not discern any finding by the Board that there was a suggestion, teaching, or motivation to combine the prior art references cited against the pending claims, the Board's conclusion of obviousness, as a matter of law, cannot stand. *See C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232; *Rouffet*, 149 F.3d at 1359, 47 USPQ2d at 1459; *Fritch*, 972 F.2d at 1265, 23 USPQ2d at 1783; *Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600; *Ashland Oil*, 776 F.2d at 297, 227 USPQ at 667.

B

The Commissioner of Patents and Trademarks ("Commissioner") attempts to justify the Board's decision on grounds different from that relied upon by the Board, arguing that one of ordinary skill in the art would have been motivated to combine the references. Of course, in order to do so, the Commissioner must do what the Board did not do below: make specific findings of fact regarding the level of skill in the art ("a designer and manufacturer of trash and leaf bags, particularly one specializing in the ornamental and graphic design of such bags"), *Resp't Br.* at 14, the relationship between the fields of conventional trash bags and children's crafts, respectively ("[t]he artisan would also have been well aware of the ancillary, corollary, and atypical uses of 'trash' bags such as their application in hobby and art projects"), *Resp't Br.* at 15, and the particular features of the prior art references that would motivate one of ordinary skill in a particular art to select elements disclosed in references from a wholly different field ("a designer and manufacturer of trash and leaf bags would have recognized the paper bag in Shapiro to be a trash bag and therefore would have been motivated to combine it with the admitted prior art plastic trash and leaf bags to arrive at the claimed invention"), *Resp't Br.* at 15. The Commissioner also appears to cite additional references in support of his obviousness analysis, noting that at least two design patents (in the record but not cited against the presently pending claims) teach the placement of "graphical information, including text, designs, and even facial indicia, to colored bags." *Resp't Br.* at 16. This new analysis, apparently cut from whole cloth in view of appeal, does little more than highlight the shortcomings of the decision below, and we decline to consider it. *See, e.g., In re Robertson*, 169 F.3d 743, , 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) ("We decline to consider [the Commissioner's] newly-minted theory as an alternative ground for upholding the agency's decision."); *In re Soni*, 54 F.3d 746, 751, 34 USPQ2d 1684, 1688 (Fed. Cir. 1995); *In re Hounsfield*, 699 F.2d 1320, 1324, 216 USPQ 1045, 1049 (Fed. Cir. 1983) (rejecting an "attempt[ ] by the Commissioner 'to apply a new rationale to support the rejection.'"); *see also* 35 U.S.C. § 144 (1994) (an appeal to the Federal Circuit "is taken on the record before The Patent and Trademark Office"). Because the Board has not established a *prima facie* case of obviousness, *see In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) ("The PTO bears the burden of establishing a case of *prima facie* obviousness."), we therefore reverse the obviousness rejections, and have no need to address the parties' arguments with respect to secondary factors.

III

Dembiczak also asks this court to reverse the Board's rejection of the pending claims for obviousness-type double patenting, which is a judicially-created doctrine that seeks to prevent the applicant from expanding the grant of the patent right beyond the limits prescribed in Title 35. *See, e.g., In re Braat*, 937 F.2d 589, 592, 19 USPQ2d 1289, 1291-92 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 892, 225 USPQ 645, 648 (Fed. Cir. 1985). *See also* 35 U.S.C. § 154(a)(2) (Supp. 1998) (discussing patent term). The doctrine prohibits claims in a second patent which define "merely an obvious variation" of an invention claimed by the same inventor in an earlier patent. *Braat*, 937 F.2d at 592, 19 USPQ2d at 1292 (quoting *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970)). Thus, unless a claim sought in the later patent is patentably distinct from the claims in an earlier patent, the claim must be rejected. *See In re Goodman*, 11 F.3d 1046, 1052, 29 USPQ2d 2010, 2015 (Fed. Cir. 1993); *Vogel*, 422 F.2d at 441, 164 USPQ at 622. This question is one of law, which we review *de novo*. *See Goodman*, 11 F.3d at 1052, 29 USPQ2d at 2015; *Texas Instruments Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1179, 26 USPQ2d 1018, 1029 (Fed. Cir. 1993).

A

[2] The law provides that, in some very rare cases, obvious-type double patenting may be found between design and utility patents. *See Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 939-40, 220 USPQ 481, 487 (Fed. Cir. 1983) (noting that, while theoretically possible, "[d]ouble patenting is rare in the context of utility versus design patents"); *In re Thorington*, 418 F.2d 528, 536-37, 163 USPQ 644, 650 (CCPA 1969) (Double patenting between a design and utility patent is possible "if the features producing the novel aesthetic effect of a design patent or application are the same as those recited in the claims of a utility patent or application as producing a novel structure."); *In re Phelan*, 205 F.2d 183, 98 USPQ 156 (CCPA 1953); *In re Barber*, 81 F.2d 231, 28 USPQ 187 (CCPA 1936); *In re Hargraves*, 53 F.2d 900, 11 USPQ 240 (CCPA 1931). In these cases, a "two-way" test is applicable. *See Carman*, 724 F.2d at 940, 220 USPQ at 487. Under this test, the obviousness-type double patenting rejection is appropriate only if the claims of the two patents cross-read, meaning that "the test is whether the subject matter of the claims of the patent sought to be invalidated would have been obvious from the subject matter of the claims of the other patent, and vice versa." *Id.*, 220 USPQ at 487. *See also Braat*, 937 F.2d at 593, 19 USPQ2d at 1292 (explaining two-way test).

B

In making its double patenting rejection, the Board concluded that all but one of the pending claims of Dembiczak's utility application would have been merely an obvious variation of the claims of the earlier-issued design patents—the Dembiczak '023 and '254 references—in light of the Holiday reference. The remaining claim, dependent claim 49, was judged obvious in light of the combination of the Dembiczak design patents, Holiday, and the Kessler reference.

[3] Acknowledging that the two-way test was required by *Carman*, 724 F.2d at 940, 220 USPQ at 487, the Board concluded that "the design claimed in each of appellants' design patents does not exclude the features pertaining to the construction and color of the bag, the use of a plastic material for making the bag, the size or thickness of the bag . . . or the use of various types of filling material . . . . The particular details of the facial indicia would have been a matter of design choice as evidenced by the Holiday handbook," and that therefore, in view of Holiday, the claims of the design patents were obvious variants of the pending utility patent claims. *See Dembiczak*, slip op. at 11. We disagree. In order for a design to be unpatentable because of obviousness, there must first be a basic design reference in the prior art, the design characteristics of which are "basically the same as the claimed design." *In re Borden*, 90 F.3d 1570, 1574, 39 USPQ2d 1524, 1526 (Fed. Cir. 1996); *In re Rosen*, 673 F.2d 388, 391, 213 USPQ 347, 350 (CCPA 1982). The phrase "having facial indicia thereon" found in the claims of the pending utility application is not a design reference that is "basically the same as the claimed design." *Borden*, 90 F.3d at 1574, 39 USPQ2d at 1526. In fact, it describes precious little with respect to design charac-

teristics. The Board's suggestion that the design details were simply "a matter of design choice" evinces a misapprehension of the subject matter of design patents. *E.g.*, *Carman*, 724 F.2d at 939 n.13, 220 USPQ at 486 n.13 ("Utility patents afford protection for the mechanical structure and function of an invention whereas design patent protection concerns the ornamental or aesthetic features of a design.") Indeed, we note that the two design patents at issue here—the Dembiczak '023 and '254 patents—were considered nonobvious over each other, and were even the subject of a restriction requirement. *See* 35 U.S.C. § 121 (1994) ("If two or more independent and distinct inventions are claimed in one application, the Commissioner may require the application to be restricted to one of the inventions."); 37 C.F.R. § 1.142. The position adopted by the Board—that a textual description of facial indicia found in the claims of the utility patent application makes obvious the specific designs claimed in the (patentably distinct) Dembiczak design patents—would presumably render obvious, or even anticipate, all design patents where a face was depicted on a bag. But this, of course, is not the law; the textual description cannot be said to be a reference "basically the same as the claimed design," of the design patents at issue here. *Borden*, 90 F.3d at 1574, 39 USPQ2d at 1526 (internal quotation marks omitted). The Board's conclusion of obviousness is incorrect.

Because we find that the Board erred in concluding that the design patents were obvious variants of the pending utility claims, we need not address the other prong of the two-way double patenting test—whether the pending utility claims are obvious variations of the subject matter claimed in the design patents. *See Carman*, 724 F.2d at 939, 220 USPQ at 487 (both prongs of the two-way test required for obviousness-type double patenting). The double patenting rejections are reversed.

IV

Because there is no evidence in the record of a suggestion, teaching, or motivation to combine the prior art references asserted against the pending claims, the obviousness rejections are reversed. In addition, because the Board misapprehended the test for obviousness-type double patenting, and because the pending utility claims do not render obvious the design patents, the double patenting rejections are also reversed.

REVERSED.

U.S. District Court
Southern District of Iowa

University of Iowa Research Foundation v. Beveridge, DeGrandi, Weilacher & Young L.L.P.

No. 3-98-CV-90013

Decided August 26, 1998

JUDICIAL PRACTICE AND PROCEDURE

1. Jurisdiction — Personal jurisdiction (§405.11)

Federal court in Iowa lacks specific personal jurisdiction over Washington, D.C. law firm and attorney named as defendants in action for professional malpractice, since defendants did not "purposefully direct" their activities at Iowa, given that defendants are charged only with negligently failing to pay maintenance fee on single patent, and that all work done in connection with that patent was performed in Washington, D.C., since single claim of legal malpractice with respect to payment of maintenance fee in Washington, D.C. cannot be said to have "arisen out of" or resulted from attorney-client relationship that began in Iowa 30 years earlier, since nature and quality of defendants' contacts with Iowa do not demonstrate how they "purposefully availed" themselves of privileges and protections of doing interstate patent work for plaintiff, and since quantity of defendants' contacts with Iowa alone does not change conclusion that assertion of personal jurisdiction over defendants would be fundamentally unfair.

Action by University of Iowa Research Foundation against Beveridge, DeGrandi, Weilacher & Young L.L.P. and Richard G. Young for professional malpractice. On defendants' motion to dismiss for lack of personal jurisdiction. Granted.

Edmund J. Sease and Jeffrey D. Harty, of Zarley, McKee, Thomte, Voorhees & Sease, Des Moines, Iowa, for plaintiff.

Lee H. Gaudineer and Carlton G. Salmons, of Austin, Gaudineer & Comito, Des Moines; Steven Verveniotis and Mark K. Anesh, of Wilson, Elser, Moskowitz, Edelman & Dicker, New York, N.Y., for defendants.

Pratt, J.

Pursuant to the Federal Rules of Civil Procedure 12(b)(2), 12(b)(3), and Local Rule 7.1, defendant moves to dismiss this legal malpractice action for lack of personal jurisdiction and venue. The court heard oral argument on July 30, 1998. The court grants the defendant's motion to dismiss for want of personal jurisdiction. The court does not, therefore, reach the issue of venue.

Background

Plaintiff, the University of Iowa Research Foundation ("UIRF"), is a nonprofit corporation organized under the laws of the State of Iowa having its principal place of business in Iowa City, Iowa. UIRF is charged with obtaining and licensing patents covering inventions arising during the normal course of research and teaching at the University of Iowa.

The two defendants, Beveridge, DeGrandi, Weilacher & Young law firm and one of its partners, Richard G. Young, will be referred to collectively as Beveridge. Beveridge specializes in patent matters and represents clients before the United States Patent and Trademark Office ("PTO"). Its principal place of business is located in Washington, D.C.; Beveridge has no other office in any state.

In 1988, UIRF hired Beveridge to represent UIRF before the PTO in the prosecution and maintenance of U.S. Patent No. 4,900,251 ("the '251 patent").[1] No written contract was ever executed between UIRF and Beveridge with respect to the '251 patent. Young handled the legal work before the PTO associated with the '251 patent. Since 1963, Beveridge has prepared and filed other patent applications on behalf of the UIRF resulting in the issuance of at least 21 patents. In 1985, Beveridge represented UIRF in matters relating to the preparation and filing of U.S. Patent No. 4,037,324 ("the '324 patent"), another orthodontic device. The '251 patent and '324 patents share the same inventor. UIRF claims that Beveridge has managed a foreign patent program related to these orthodontic dental devices, presumably on UIRF's behalf.[2]

UIRF alleges that on or about June 23, 1993, UIRF sent a check to Beveridge instructing Beveridge to pay a maintenance fee to the PTO to extend the term of the '251 patent. The maintenance fee was due in the PTO on February 13, 1994. UIRF alleges that Beveridge negligently failed to pay the maintenance fee for the '251 patent when due, thereby causing the term of the '251 patent to lapse. UIRF alleges further that Beveridge did not tell UIRF of the failure to pay the fee and of the patent's lapse until Beveridge later took action to attempt to remedy the lapse.

On February 2, 1998, UIRF filed suit against Beveridge in this court alleging one count of professional malpractice. Subject matter jurisdiction is based on diversity under 28 U.S.C. § 1332. Venue is claimed proper under 28 U.S.C. § 1391 (1998). UIRF prayed for an unspecified amount of damages to compensate for the loss of royalty payments for licenses granted under the '251 patent, and the costs associated with litigating against infringers' claims of intervening fights. UIRF did not file suit in the District of Columbia.

Beveridge responded by filing its Motion to Dismiss on April 16, 1998. Beveridge asserts that dismissal is warranted because both personal jurisdiction and venue are lacking. As to personal jurisdiction, Beveridge states:

> [Beveridge] did not solicit business generally (or representation of the Plaintiff specifically), advertise, travel to, hold property in, perform legal services in, or commit any act which could be deemed malpractice in Iowa. In short, [Beveridge's] contact with the forum state through its correspondence with the Plaintiff was insubstantial in the context of a due process analysis, and thus insufficient to subject [Beveridge] to personal jurisdiction.

(Defs.' Mem. Supp. Mot. Dismiss at 8-9.) Through the affidavit of Richard G. Young ("Young Affidavit"), Beveridge further avers that neither Young nor his law firm is licensed to practice in any state or federal court in Iowa, or resides in Iowa. While Young states that neither he nor any member of his firm traveled into Iowa to meet with representatives of UIRF, an invoice dated September 30, 1985 reveals some member of the law firm traveled to Iowa City in connection with the '324 patent. The

[1] The '251 patent, disclosing an orthodontic dental device, was invented by the late George F. Andreason, a faculty member at the University of Iowa Dental College.

[2] This "foreign patent program" is not explained in any more detail in UIRF's brief.

ques has requested or furthered sales in Virginia, although such sales would accrue to its financial benefit. Additionally, Eliah has been modified in a later case, Louis Marx & Co. v. Fuji Seiko, supra. In Marx the court held the standard for exercising in personam jurisdiction over a foreign corporation to be whether the manufacturer had knowledge of and benefit from the agent's action and had exercised some control over the agent. The added element of control is clearly not present here.

Cases cited by Zoo-Techniques against in personam jurisdiction seem more applicable to the present situation. In Ajax Realty Corp. v. J. F. Zook, 493 F.2d 818 (4th Cir. 1972), the Fourth Circuit refused to accept in personam jurisdiction over a Washington window frame manufacturer whose sole contact with Virginia was to send frames to an in-state customer at the behest of an independent dealer. While recognizing Virginia's single transaction rule as held in John G. Kolbe v. Chromodern Chair Co., supra, the court found that the shipment did not constitute a single transaction and rejected the theory that a "manufacturer transacts business in every state in which each of its independent distributors deals." 493 F.2d at 821. In the present case, Zoo-Techniques has not even directly shipped to Virginia, making for an even stronger case against personal jurisdiction than in Ajax.

In PPS, Inc. v. Jewelry Sales Representatives, supra, the court found in personam jurisdiction over a foreign jewelry manufacturer through jurisdiction over its exclusive distributor. The fact that the agent was the sole dealer was not the touchstone of personal jurisdiction but that in performing in that capacity the agent acted only as a conduit; the manufacturer retained the power to accept or reject solicited customers and set prices. In the present case Vineland solicits and accepts its own customers and sets its own prices without reference to Zoo-Techniques.

The Court having found there is insufficient nexus between Zoo-Techniques and Vineland to attribute the latter's actions to the former, it is unnecessary to examine the second question as to whether Vineland's actions in Virginia are sufficient to find in personam jurisdiction over Vineland pursuant to the long-arm statute.[9]

The action will accordingly be dismissed without prejudice.

Dismissal as opposed to transfer is the relief granted here. The latter is undoubtedly permissible since the alleged cause of action arose in Massachusetts, and Damon, Vineland and (recently) Zoo-Techniques have conceded the propriety of venue and their amenability to service there. 28 U.S.C. §§1404(a) and 1406(a). Goldlawr, Inc. v. Heiman, 369 U.S. 463 (1962); Internatio-Rotterdam, Inc. v. Thomsen, 218 F.2d 514 (4th Cir. 1955). Since the only connection Virginia has with the action is that Robins is a Virginia corporation, a transfer might be appropriate. However, with a motion to transfer to Virginia pending in Massachusetts, this Court is unwilling to preempt that Court's consideration of the motion by transferring the action.

[9] Vineland's action in Virginia pose a question heretofore left open by the Fourth Circuit in interpreting §8.01-328.1. In Elefteriou v. Tanker Archontessa, 443 F.2d 185, 189 (4th Cir. 1971), the court expressed no view as to whether, when personal jurisdiction is obtained pursuant to Virginia's long-arm statute and F. R. Civ. P. 4(e), there are "counter-vailing federal policies" to warrant the exercise of personal jurisdiction when the acts granting jurisdiction under section (A) of the statute do *not* give rise to the cause of action as required by section (B). In this case the Virginia activities of Zoo-Techniques, if it is presumed to have acted through its agent Vineland, with respect to the sale of automatic innoculators do not give rise to the cause of action for patent infringement relating to pneumatic innoculators. Therefore the question arises whether, in these circumstances in which federal question subject matter jurisdiction exists under 28 U.S.C. §1331, the exercise of personal jurisdiction satisfies due process without regard to the requirement imposed by §8.01-328.1(B). However, this Court's disposition with respect to the relationship between Zoo-Techniques and Vineland does not present an appropriate framework in which to decide this question.

District Court, District of Columbia

Berghauser et al.

v. Dann, Commissioner of Patents and Trademarks

No. 76-0089

Decided Mar. 14, 1978

Patent No. 4,153,461 issued May 8, 1979

PATENTS

1. Revised statutes 4915 suits (35 U.S.C. 145) — Weight given decisions being reviewed (§39.30)

Decisions of Patent and Trademark Office tribunals are presumptively correct.

2. Revised statutes 4915 suits (35 U.S.C. 145) — Weight given decisions being reviewed (§39.30)

Factual findings of Patent and Trademark Office are to be sustained unless reviewing court is thoroughly convinced they are erroneous.

3. Patentability — Evidence of — Commercial success — In general (§51.4551)

Commercial success is evidence of unobviousness.

4. Patentability — Anticipation — Combining references (§51.205)

Patentability — Invention — In general (§51.501)

Mere fact that disclosures of references can be combined does not make combination obvious, unless art also suggests desirability of combination.

5. Patentability — Evidence of — Suggestions of prior art (§51.469)

Nonobviousness of invention is supported by fact that one skilled in art would not have searched for solution to problem in direction that inventors took.

Particular patents — Printing Plates

Berghauser and Uhlig, Layer Support for Light-Sensitive Material Adapted to be Converted into a Planographic Printing Plate, rejection of claims 6 through 8 reversed.

Action by Gunter Berghauser and Fritz Uhlig, against C. Marshall Dann, Commissioner of Patents and Trademarks, for issuance of patent. Judgment for plaintiffs.

James E. Bryan, Alexandria, Va., for plaintiffs.

Joseph F. Nakamura for defendant.

Smith, District Judge.

Pursuant to Rule 53 of the Federal Rules of Civil Procedure, this case was referred by United States District Court Judge John Lewis Smith, Jr., to United States Magistrate Lawrence S. Margolis as a Special Master, to make all necessary findings of fact and conclusions of law with respect to the issues presented.

The Plaintiffs, Gunter Berghauser and Fritz Uhlig, seek reversal of the decision of the Board of Appeals of the United States Patent and Trademark Office, dated November 18, 1975. This decision affirmed the decision of the Patent Examiner which rejected claims 6 to 8 of Plaintiffs' application serial no. 303,515, filed November 3, 1972. As a result of this denial of their application, Plaintiffs seek an award from this Court of a patent containing claims 6 to 8. 35 U.S.C. §145.

The Defendant, C. Marshall Dann, is the Commissioner of Patents and Trademarks of the United States. In capsule, the Defendant claims 35 U.S.C. §103 prohibits awarding a patent on Plaintiffs' application since the claimed invention is obvious in view of the prior art.

Plaintiff contends the United States Patent and Trademark Office fundamentally misapprehends their invention and has rejected their application on erroneous grounds.

A one day trial was held in which two witnesses testified on behalf of the Plaintiffs. The Defendant presented no witnesses, relying principally on cross-examination and the record before the United States Patent and Trademark Office.

The disputed invention relates to a chemically treated aluminum base used in the manufacture of presensitized planographic printing plates. The surface of the invention is the reaction product of phosphonic acid, referred to in the record as the "adhesive," with an anodically produced aluminum oxide layer. Plaintiffs claim their invention exhibits definite advantages over the prior art in that (1) it is less subject to deterioration; (2) its improved surface properties are less conducive to ink "scumming" during the printing process; (3) it produces a superior printed image; and (4) it permits a larger number of impressions to be printed.

The Patent Office contends Plaintiffs' claims are obvious in view of the prior art, taken collectively, as evidenced by Uhlig patent no. 3,220,832 (another printing related

patent awarded to one of the Plaintiffs), Sus et al., Australian patent no. 273,775, and Kirk-Othmer, Encyclopedia of Chemical Technology.

The Uhlig and Sus et al. patents involve an aluminum base having a surface which is the reaction product of phosphonic acid with a boehmite layer. Both patents indicate the aluminum base can be covered with a layer of boehmite, prior to coating with phosphonic acid. This base, like the invention in dispute, is used in the manufacture of presensitized printing plates.

The Uhlig and Sus et al. patents do not expressly refer to an anodically produced aluminum oxide layer. However, these two patents, relied on by the Patent Office as prior art, do refer to a boehmite layer which reacts with phosphonic acid. Boehmite is hydrated aluminum oxide and is encompassed by the generic term "aluminum oxide." The Patent Office argues the Kirk-Othmer reference teaches that boehmite can be produced by anodizing aluminum; consequently, the Patent Office concludes the only difference between the Plaintiffs' invention and prior art is the express recitation of "anodically produced" with respect to the formation of the aluminum oxide layer. (Decision of the Board of Appeals, p. 2).

To the Patent Office, Plaintiffs' invention is obvious since the Uhlig and Sus et al. patents teach the treatment of a boehmite coated aluminum base with phosphonic acid and Kirk-Othmer discloses that boehmite can be produced by anodizing aluminum and then quenching the oxide layer so formed in hot water. (Examiner's Answer pp. 2, 4, 5).

The Plaintiffs contend nothing in the prior art of Uhlig or Sus et al. suggests an anodically produced aluminum oxide layer. Moreover, they argue that since boehmite and aluminum oxide possess completely different chemical properties, citation to one can not be interpreted as reference to the other. In essence, the parties assert opposing interpretations of the significance of these oxides. To the Plaintiffs, anodically produced aluminum oxide is drastically different from boehmite; to the Patent Office it is not. Whether distinguishing boehmite from aluminum oxide is a distinction without a substantial difference, as the Patent Office contends, or whether these substances are distinctively different, as Plaintiffs assert, is central to this dispute.

Findings of Fact

1. This is a civil action brought under 35 U.S.C. §145. Plaintiffs, Gunter Berghauser and Fritz Uhlig, citizens of the Federal Republic of Germany, seek reversal of a decision of the Board of Appeals of the United States Patent and Trademark Office which denied their patent application serial no. 303,515, entitled "Aluminum Printing Plate Base Having a Modified Oxidized Surface." (Pl. Ex. 2, p. 2). This instant application is a continuation application of parent application serial no. 780,597, filed December 2, 1968, now abandoned.

2. The defendant, C. Marshall Dann, is the Commissioner of Patents and Trademarks of the United States.

3. In a decision dated November 18, 1975, The Board of Appeals of the United States Patent and Trademark Office affirmed the Examiner's decision rejecting, as obvious in view of prior art, claims 6 to 8 in Plaintiffs' application. Claims 6 to 8 were the only claims in the application.* (Pl. Ex. 2, pp. 15, 71).

4. The basis for the Patent Office's rejection of Plaintiffs' claims was that they were obvious in view of prior art. 35 U.S.C. §103. (Def. Ex. 1, pp. 62-63. Pl. Ex. 2, pp.72-73). The prior art relied upon by the Patent Office was Uhlig patent no. 3,220,832, Sus et al. Australian patent no. 273,775, and Kirk-Othmer, Encyclopedia of Chemical Technology.

5. The Uhlig and Sus et al. patents disclose an aluminum base used in the manufacture of presensitized printing plates, the surface of which is the reaction product of phosphonic acid with a boehmite layer.

6. One of the Plaintiffs, Fritz Uhlig, is the patentee of U.S. patent no. 3,220,832, which was cited as part of the prior art relied upon by the Patent Office in rejecting the Plaintiffs' application. (Def. Ex. 1A, p. 61). The Uhlig patent and the Sus et al. patent involve an aluminum base used in the manufacture of presensitized printing plates. The surface of this aluminum base is coated with a layer of boehmite and treated with phosphonic acid. The reaction product of the phosphonic acid with the boehmite coating forms the surface of the base. (Def. Ex. 1C, Col. 2, lines 3-10; Col. 5, lines 70-75; Def. Ex. 1D, p. 3, lines 5-19).

7. Boehmite is hydrated aluminum oxide. (Tr. 56). It falls within the generic term "aluminum oxide" (Tr. 62). However, there are a number of different aluminum oxides which fall within the generic term "aluminum oxide." (Tr. 62).

8. Plaintiffs' invention involves the use of an anodically produced aluminum oxide layer. This layer differs significantly from boehmite, another form of aluminum oxide. (Tr. 34-35, 51). Plaintiffs' anodically produced aluminum oxide is hard (Tr. 30), non-crystalline, and anhydrous. (Tr. 35). Boehmite is hydrous (Tr. 35, 75), crystalline, and soft. (Tr. 35).

9. Boehmite cannot be produced anodically, unlike aluminum oxide. (Tr. 123, 124, 127, 132). Boehmite can be created by dipping aluminum into hot water. (Tr. 132).

10. The Uhlig patent does not disclose the process through which boehmite layers are formed on the aluminum base. The Sus et al. patent alludes to a hot water treatment. (Def. Ex. 1D, p. 3, lines 16-19).

11. The Uhlig and Sus et al. patents differ from the Plaintiffs' claims. These two patents make no express reference to an anodically produced aluminum oxide layer. (Tr. 79-80, 121-123).

This difference is significant (Tr. 79), although boehmite and aluminum oxide are both oxides. (Tr. 34-35).

12. The boehmite layers in Uhlig and Sus et al., read in light of Kirk-Othmer, do not fall within the Plaintiffs' claim of an "anodically produced aluminum oxide layer." Boehmite cannot be produced anodically. (Tr. 123-124). Kirk-Othmer does not indicate that boehmite can be produced anodically. (Tr. 70-75). Neither does the Kirk-Othmer reference suggest that the formation of an anodically produced aluminum oxide layer may be used in making a printing plate. (Tr. 55, 58-59, 71-75).

13. The Sus et al. patent does not suggest the anodic formation of aluminum oxide in its reference to anodic cleaning of aluminum. (Tr. 51-54).

14. The Uhlig patent's reference to electrolytic roughening of the aluminum base does not suggest the anodic production of aluminum oxide. (Tr. 36-40). These processes are essentially different. Their similarities are only superficial. (Tr. 40).

15. The references in Uhlig and Sus et al. to boehmite do not fall within the language of Plaintiffs' claims even though boehmite falls within the generic term "aluminum oxide." A small amount of boehmite on Plaintiffs' anodically produced aluminum oxide layer has no effect on the length of a printing run of Plaintiffs' plates. (Tr. 102-104). A large amount of boehmite on Plaintiffs' anodically produced aluminum oxide layer greatly reduces the length of a printing run of Plaintiffs' plates. (Tr. 104-105).

16. Plaintiffs' anodically produced oxide layer is an essential feature of the invention. (Tr. 106).

17. Plaintiffs' combination of phosphonic acid with an anodically produced aluminum oxide layer unexpectedly resulted in enhancing the developability of the plate. (Tr 36-37, 117-118).

18. Printing plates using Plaintiffs' anodized aluminum base reacted with phosphonic acid enjoy an unexpectedly improved shelf life, as opposed to plates in which an anodized aluminum base is not treated with phosphonic acid. (Tr. 35-36, 94-101). The shelf life test is one indication of the ease and speed of developability. (Tr. 95).

19. The present invention is quite superior to that disclosed in the Uhlig patent. (Tr. 104-108). For example, with Plaintiffs' alleged invention the length of a printing run is about 35,000 prints whereas the printing run for the prior art is only about 2,000 prints (Pl. Ex. 10); 33,000 prints with Plaintiffs' alleged invention as opposed to 1,000 prints for the prior art (Pl. Ex. 11); and 34,000 prints with Plaintiffs' alleged invention versus 7,000 prints for the prior art. (Pl. Ex. 13).

20. Plaintiffs' invention has enjoyed significant commercial success. (Pl. Ex. 3).

21. The present invention is unexpectedly superior to the prior art. (Tr. 112-115).

Conclusions of Law

[1] 1. The decisions of Patent and Trademark Office tribunals are presumptively correct. Fields v. Schuyler, 153 U.S. App. D. C. 229, 230; 472 F.2d 1304, 1305, 175 USPQ 514, 515 (D. C. Cir.), cert. denied, 411 U.S. 987, 177 USPQ 673 (1973).

[2] 2. Factual findings of the Patent and Trademark Office are to be sustained unless the reviewing court is thoroughly convinced they are erroneous. Pro-Cot Corporation v. Commissioner of Patents, 436 F.2d 296, 297, 168 USPQ 17, 18 (D. C. Cir. 1970).

3. The decision of the Board of Appeals of the U.S. Patent and Trademark Office is clearly erroneous because of its emphasis on

* The claims read as follows:

6. An aluminum base, for use in the manufacture of presensitized printing plates, having a surface which is the reaction product of polyvinyl phosphonic acid with an anodically produced aluminum oxide layer having a thickness in the range of about 0.0002 to 0.01 mm.

7. An aluminum base according to claim 6 including a light-sensitive layer on the surface.

8. An aluminum base according to claim 7 in which the light-sensitive layer contains a compound selected from the group consisting of diazo and azido compounds.

a boehmite layer. The presence of boehmite is not relevant to the present invention.

4. The statement of the Board of Appeals that:

"Since both Uhlig and Sus discloses that the aluminum support may be provided with a boehmite layer, we see nothing unobvious in producing the boehmite layer using the teachings of Kirk-Othmer. The claimed structure would clearly result." (Pl. Ex. 2, p. 72).

is clearly erroneous.

5. Plaintiffs' invention is novel, useful, and unobvious.

6. Plaintiffs' invention produces unexpected results in view of prior art.

7. Plaintiffs' invention exhibits improved adhesion of the image areas to the support and improved ease of developability, when one skilled in the art would expect developability to be more difficult.

[3] 8. Commercial success is evidence of unobviousness.

[4] 9. The mere fact that disclosures of references can be combined does not make the combination obvious. The combination is not obvious unless the art also suggests the desirability of the combination. Application of Imperato, 486 F.2d 585, 587, 179 USPQ 730, 731-732 (C.C.P.A. 1973). Nothing in the prior art cited by the Patent Office suggests the desirability of combining the references relied upon in this case.

[5] 10. The nonobviousness of Plaintiffs' invention is supported by the fact that one skilled in the art would not have searched for the solution to the problem in the direction which the inventors took. White v. Mar-Bel, Inc., 509 F.2d 287, 291, 185 USPQ 129, 131-132 (5th Cir. 1975).

11. The Plaintiffs are entitled to the grant of a patent containing claims 6 to 8 of their application serial no. 303,515, filed November 3, 1972.

Patent and Trademark Office Trademark Trial and Appeal Board

General Mills Fun Group, Inc.
v. Tuxedo Monopoly, Inc.

Decided Nov. 29, 1979

TRADEMARKS

1. Opposition — Pleading and practice (§67.589)

Record of opposer that ordered and made of record, pursuant to Trademark Rule 122(b), status and title copies of its pleaded registrations proves registrations' existence and ownership.

2. Opposition — Pleading and practice (§67.589)

Opposer has burden of persuading Trademark Trial and Appeal Board by fair preponderance of evidence that applicant's use of mark on its goods is likely to cause confusion in view of opposer's previously used and registered identical mark for its goods.

3. Evidence — Judicial notice (§36.20)

Marks and names subject to ownership — Descriptive — Misdescriptive or not descriptive — Particular marks (§67.5078)

Trademark Trial and Appeal Board takes judicial notice that "famous" marks are frequently used on certain types of items, such as clothing, glassware, trash cans, and pillows, that are unrelated in nature to those goods on which marks are normally used "Monopoly" is in category of famous marks, for board game.

4. Class of goods — In applications to register (§67.205)

Presumption for purposes of opposition proceeding is that applicant's goods include items in low and middle as well as upper price ranges, that they move through all normal channels of trade for goods of that type, and that they are available to all purchasers of such goods, when identification of goods in application does not contain any limitations as to these matters, as there is nothing to preclude applicant from expanding its trade channels to include department stores and other similar outlets should economic or other factors dictate a need for such change.

5. Registration — Effect (§67.747)

Certificate of registration of mark upon Principal Register constitutes prima facie evidence under Lanham Act Section 7(b) of registrant's exclusive right to use mark in commerce in connection with goods specified in certificate, and to exclude others from using same or similar mark for like or related goods.

6. Identity and similarity — In general (§67.401)

Facts and circumstances surrounding applicant's adoption of its mark are of no particular significance if result is mark that, when applied to applicant's goods, conflicts with prior use and/or registration of same or similar mark by another.

7. Identity and similarity — How determined — Doubt against newcomer (§67.4067)

Doubts as to likelihood of confusion must be resolved against newcomer and in favor of prior user.

8. Class of goods — Particular cases — Similar (§67.2073)

Use of "Monopoly" for wearing apparel and for board game played with movable pieces is likely to cause confusion.

9. In general (§67.01)

Class of goods — How determined — Emanating from same source (§67.2033)

Opposition — Mark and use of opposer — In general (§67.5831)

Opposer is not entitled to right in gross in its mark, which would be contrary both to established principles of trademark law and to Lanham Act Section 2(d); opposer is entitled to protection against registration by subsequent user of same or similar mark for goods distinctly different from those of opposer where record shows that special conditions or circumstances exist that are sufficient to support inference that purchasers encountering applicant's goods bearing its mark would be likely to mistakenly assume that applicant's goods are in some way connected with opposer.

Trademark opposition No. 57,732, by General Mills Fun Group, Inc., against Tuxedo Monopoly, Inc., application, Serial No. 431,254, filed July 31, 1972. Opposition sustained; Kera, Member, dissenting with opinion.

Nims, Howes, Collison & Isner, New York, N.Y., for General Mills Fun Group, Inc.

Virginia R. Richard, New York, N.Y., for Tuxedo Monopoly, Inc.

Before Rice, Fowler, and Kera, Members.

Rice, Member.

Tuxedo Monopoly, Inc. filed an application to register the trademark "MONOPOLY" for men's, women's and children's wearing apparel — namely, dresses, skirts, coats, scarves, pantsuits, blouses, sweaters, jackets, shirts, slacks, shoes, belts, pantyhose and socks.[1]

Registration of the mark has[2] been opposed by General Mills Fun Group, Inc., which alleged prior and continuing use of the trademark "MONOPOLY" for a real estate trading game by its predecessor and itself; ownership of registrations of "MONOPOLY" for equipment comprising a board and movable pieces for use in playing a real estate trading game[3] and for toy money and racks and tills suitable for holding same for use in the play of games;[4] a wide and favorable reputation for the goods sold under the "MONOPOLY" mark; celebrity of the "MONOPOLY" mark as a symbol of a valuable goodwill; the use of "MONOPOLY" by licensees on rugs, glassware, ice buckets, trays and giftware; the receipt of numerous requests to use "MONOPOLY" on diverse goods, including clothing and fabrics for clothing; the sale of opposer's and applicant's goods through the same stores and the advertising thereof through the same media; sales to the same customers; an identity of the parties' marks; and a likelihood that applicant's mark is likely to cause purchasers to believe that applicant's goods are made for or sponsored or endorsed by opposer, to the latter's damage.

Applicant admitted the issuance of the two registrations pleaded by opposer and that it did not use its mark in commerce prior to July 26, 1972 but denied the rest of the allegations in the notice of opposition. In addition, applicant pleaded affirmative defenses of unclean hands, trademark mis-

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[1] Serial No. 431,254, filed July 31, 1972, claiming first use on or about July 26, 1972.

[2] Reg. No. 326,723, issued July 30, 1935 to a predecessor and assigned; twice renewed, republished under §12(c); affidavit under §8 accepted; affidavit under §15 received.

[3] Reg. No. 338,834, issued Sept. 15, 1936 to a predecessor and assigned; twice renewed, republished under §12(c); affidavit under §8 accepted; affidavit under §15 received

Photographs are a subject matter protected explicitly by the Act in section 102. See 17 U.S.C. §§101 & 102(a)(5). The cause of action does not "arise from undertakings commenced before January 1, 1978"; both the photographs and the infringement occurred after that date. Finally, these photographs do not involve any activities specified in 18 U.S.C. §106. Therefore, the parties' respective rights are governed exclusively by the Copyright Act.

The Act, as I discussed in detail in my prior opinion, establishes the validity of plaintiff's copyright. Defendants have argued at length that plaintiff's copyright is uncertain because of the "work made for hire" provisions of the Act. This argument is unpersuasive.

[3] First, the photographs do not fall into either category of "works made for hire." [1] In such circumstances, copyright ownership is affixed in the author.[2] Second, even if the provision did apply, because plaintiff would be an independent contractor, there would have to be some writing evidencing the transfer of his copyright to his subjects. See 17 U.S.C. §101. Plaintiff has stated in a sworn affidavit that there is no such writing or transfer. In the absence of defendants' putting any actual facts into issue, therefore, the granting of plaintiff's summary judgment motion was appropriate and is upheld.

So Ordered.

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[1] If a work does not fall within one of the [statute's] categories then even if it has been prepared by one person upon the special order or commission of another, it will not qualify as a 'work made for hire,' with the special legal consequences which flow from this designation.

M. NIMMER, NIMMER ON COPYRIGHTS §5.03 [B](2)[a] (1982). Defendants apparently admit that plaintiff's rights are not governed by the work for hire provisions. See Defendants Notice of Motion at 9-10. Rather, defendants principally argue that the common law governs herein. As I have discussed above, however, the 1976 Act's provisions are exclusive in this area.

[2] Defendants cannot dispute that the photographer is the "author" of the photograph. Moreover, their speculation that there could be some kind of "joint" authorship has no evidentiary support. Summary judgment in such a context is appropriate. See Exxon Corp. v. Federal Trade Commission, 663 F.2d 120, 128 (D.C. Cir. 1980) ("It is not the intent of Rule 56 to preserve purely speculative issues of fact for trial * * * *").

Court of Appeals, Federal Circuit

ACS Hospital Systems, Inc.
v. Montefiore Hospital et al.

Nos. 83-1121 and 83-1132
Decided Apr. 27, 1984

PATENTS

1. Pleading and practice in courts — Burden of proof — Validity (§53.138)

Presumption from patent grant — In general (§55.1)

Presumption of validity is never annihilated, destroyed, or even weakened, regardless of what facts are of record; rather it is clear statutory procedural device that assigns to party asserting invalidity burden of proving invalidity; burden of persuasion is, and remains always, on party asserting invalidity.

2. Construction of specification and claims — In general (§22.01)

Construction of specification and claims — By specification and drawings — To save claim (§22.257)

Claims are to be read and construed in light of specification and prosecution history of patent; further, claim should be so construed, if possible, as to sustain their validity.

3. Construction of specification and claims — In general (§22.01)

Claim construction is question of law.

4. Patentability — Anticipation — Combining references (§51.205)

Obviousness cannot be established by combining teachings of prior art to produce claimed invention, absent some teaching or suggestion supporting combination; teachings of references can be combined only if there is some suggestion or incentive to do so, under 35 USC 103.

5. Infringement — Tests of — Comparison with claims (§39.803)

Infringement is determined on basis of claims, not on basis of comparison with patentee's commercial embodiment of claimed invention.

6. Court of Appeals for the Federal Circuit — Weight given decision reviewed (§26.59)

CAFC is confined to trial court's limited findings and is forced to draw from facts found, those inferences that are necessary to support ultimate finding that patent is not infringed; in this endeavor CAFC does not itself find those facts that trial court failed to set out for it; as appellate court, CAFC lacks power to perform that exercise; where trial court fails to make findings, judgment will normally be vacated and action remanded for appropriate findings to be made; where full understanding may be had without aid of separate findings, however, narrow exception to that general rule is recognized; ultimate finding of fact in case, whether initially by trial court, or as affirmed on appeal, rests on same underpinnings, that is, necessary subsidiary facts, supported by evidence of record, that lead to ultimate finding; where district court has not misapplied controlling legal standards in its evaluation of evidence, its ultimate finding as well as subsidiary findings upon which ultimate finding necessarily depends, is subject to review on appeal under clearly erroneous standard of FedRCivP 52(a); record is examined in order to review trial court's judgment, and findings it made or necessarily had to have made to support that judgment and, thus, to conclude controversy at appellate stage without unnecessary further expenditure of judicial resources, if possible.

7. Costs — Attorney's fees (§25.5)

Court of Appeals for the Federal Circuit — Weight given decision reviewed (§26.59)

Prevailing accused infringer must establish that trial judge abused his discretion in regard to accused infringer's motion for attorney fees, not merely that trial judge committed clear error, in order to prevail on cross appeal on that issue.

Particular patents — Television Switches

4,183,057, Sonnenberg, Actuating System for a Rental Television, holding of invalidity reversed; holding of noninfringement affirmed.

Appeal from District Court for the Western District of Pennsylvania, Dumbauld, J.; 220 USPQ 731.

Action by ACS Hospital Systems, Inc., against Montefiore Hospital, and Wells National Services Corporation, for patent infringement. From judgment for defendants, but denying attorney fees, both parties appeal. Modified.

Frank J. Benasutti, Philadelphia, Pa., for appellant.

David J. Cushing, Washington, D.C. (Daryl Mexic, Washington, D.C., on the brief) for appellees.

Before Miller and Smith, Circuit Judges, and Re, Judge.*

Smith, Circuit Judge.

In this patent case, ACS Hospital Systems, Inc. (ACS), appeals from a judgment of the U.S. District Court for the Western District of Pennsylvania holding U.S. patent No. 4,183,057, issued to Sonnenberg (the Sonnenberg patent), invalid as obvious under 35 U.S.C. §103 (1976) and not infringed. Montefiore Hospital and Wells National Service Corp. (Wells) cross-appeal from the district court's denial of their motion for attorney fees. The judgment is reversed with respect to invalidity and affirmed with respect to noninfringement. With respect to Wells' cross-appeal from the denial of attorney fees, the judgment is affirmed.

Background

ACS's Sonnenberg patent claims a rental television system comprising a key operated actuating switch, an override switch, and a signal light to indicate that the override switch has been actuated. When the key switch is in the "on" position, the television operates normally. For rental use, the key switch is placed in the "off" position by a key operator. In order to rent the television, the viewer depresses the override switch which enables the television to operate normally without the necessity of turning on the key operated switch. When the override switch has been activated the indicator signal is illuminated, signaling that the television has been rented. Claim 1 is representative:

> A television system constructed for rental use, the television system comprising:
>
> actuating means including a key operated switch switchable between an off position for preventing normal operation of the television and an on position for enabling the television to be operated;
>
> override switching means capable of being switched from a normal position to an actuated position for overriding said key operated switch when in its off position and enabling the television to be operated; and said override switching means when switched in to [sic] its actuated position remains in said position until said key operated switch is switched into its on position; and
>
> indicating means for providing an indicating signal when said override switching means has been switched into its actuated position.

Validity

The trial court held the claims of the Sonnenberg patent invalid under section 103. While the trial court's opinion deals predominantly with infringement, the court purported to apply the standards articulated in Graham v. John Deere Co.[1] in determining the issue of validity. In concluding that the Sonnenberg patent is invalid under section 103, the district court relied on override switches generally and ACS's 'COMPU-TEL" fully automated television rental system as prior art.

The court below stated that "the overriding of switches by providing an alternative path for current to actuate an appliance is a commonly practiced technique well known in the art prior to Sonnenbeg's patent." It held that his claim 1 is therefore invalid as obvious. The trial judge adopted Wells' expert's description of ACS's COMPU-TEL system and held the Sonnenberg patent invalid as an attempt by ACS to "monopolize all systems of enabling a hospital patient to view television * * * without the aid of an attendant." (Emphasis in original.) He commented that "[t]he statutory presumption [of validity] of 35 U.S.C. 282 is entirely annihilated by the indisputable facts in the record."

Presumption of Validity

[1] As an initial matter, we hold that the trial court's treatment of the presumption of validity is incorrect as a matter of law. The presumption is *never* annihilated, destroyed, or even weakened, regardless of what facts are of record.[2] Rather, it is a clear statutory procedural device which assigns to the party asserting invalidity the burden of proving invalidity.[3]

> A patent shall be presumed valid. * * * The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.[4]

The burden of persuasion is, and remains always, on the party asserting invalidity.[5] In the present case this error is not harmless. The district court's holding of invalidity has been shown, on the entire record, to have been reached on the basis of *both* clearly erroneous findings of fact and misapplication of the law.[6]

Section 103

This court has in recent months issued a number of opinions addressing the analysis of obviousness under section 103[7] and those opinions provide a comprehensive guide to analysis. We hold that the trial court's analysis of obviousness is inadequate under Graham[8] to sustain a holding of invalidity under section 103. However, the trial court's opinion contains sufficient findings of fact, supported in the record, to enable us to review the conclusion below that the Sonnenberg patent is invalid.

Scope and Content of the Prior Art.

In determining the scope and content of the prior art, the trial court found that override switches generally were well known in the art. It also found that ACS's COMPU-TEL system was within the prior art under section 102(g). The district court did not in its opinion rely on any other prior art reference in determining whether the claimed invention would have been obvious under section 103.

Five U.S. patents[9] are cited in the Sonnenberg patent as prior art. Further, the parties refer to the "Western New York Hospital" rental television system as prior art. While the trial judge made no mention in his opinion of these additional references, on the basis of the record before us, they each constitute prior art relative to the Sonnenberg patent. We hold that the trial court's limited assessment of the prior art was clearly erroneous in that the court below failed to find that these additional references are within the scope and content of the prior art. These errors, however, have not been shown to have influenced the trial court's judgment in this case and, accordingly, we consider them harmless.

Differences.

With respect to the differences between the claimed subject matter and the prior art, the district court gave claim 1 of the Sonnenberg patent an extremely broad construction. It adopted the opinion of Wells' expert that the COMPU-TEL system contains every feature of claim 1. Hence, the court below found no significant differences between the claimed subject matter and the prior art. We hold that finding to be clearly erroneous. In addition, that finding reflects an erroneous construction of the claims.

The trial court in its discussion of obviousness, rather than ascertaining the differences between the claimed subject matter and the prior part, focused on the differences between

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* The Honorable Edward D. Re, Chief Judge, United States Court of International Trade, sitting by designation.

[1] Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966).

[2] Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1534, 218 USPQ 871, 875-76 (Fed.Cir. 1983).

[3] Id.

[4] 35 U.S.C. §282 (1976).

[5] Stevenson v. U.S. Int'l Trade Comm'n, 612 F.2d 546, 551, 204 USPQ 276, 281 (CCPA 1979); Solder Removal Co. v. U.S. Int'l Trade Comm'n, 582 F.2d 628, 632-33, 199 USPQ 129, 132-33 (CCPA 1978). See also Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed.Cir. 1983); Medtronic, Inc. v. Cardiac Pacemakers, Inc., 721 F.2d 1563, 220 USPQ 97 (Fed. Cir.1983); Stratoflex, 713 F.2d at 1534, 218 USPQ at 875-76; Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 773-74, 218 USPQ 781, 790 (Fed. Cir. 1983).

[6] Cf. Medtronic, 721 F.2d at 1566, 220 USPQ at 99 (errors in decisional approach considered harmless).

[7] In re Sernaker, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983); Orthopedic Equip. Co. v. United States, 702 F.2d 1005, 217 USPQ 193 (Fed. Cir. 1983); Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc., 707 F.2d 1376, 217 USPQ 1281 (Fed.Cir. 1983); Chore-Time Equip., Inc. v. Cumberland Corp., 713 F.2d 774, 218 USPQ 673 (Fed. Cir. 1983); Carl Schenck, A.G. v. Nortron Corp., 713 F.2d 782, 218 USPQ 698 (Fed.Cir. 1983); Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 218 USPQ 865 (Fed.Cir. 1983); Stratoflex, 713 F.2d 1530, 218 USPQ 871.

[8] Graham, 383 U.S. at 17-18, 148 USPQ at 467, provides, in pertinent part:

> "* * * [Section] 103 * * * lends itself to several basic factual inquiries. Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy. * * *"

[9] Norris, U.S. patent No. 2,856,474; Townsend, U.S. patent No. 3,188,384; Sargent, U.S. patent No. 3,335,421; Daniel, U.S. patent No. 3,631,444; and Kosco, U.S. patent No. 3,886,302.

the Wells and the ACS systems. In so doing, it adopted Wells' expert's explanation of the differences between claim 1 and the Wells system — differences relating to literal infringement, not validity. We conclude that the trial court erred in adopting Wells' expert's interpretation of claim 1.

Differences between the prior art and the claimed invention are apparent from the record. First, while override switches are used in a wide variety of applications, the examples of override switches cited by the district court are not relevant to the claimed subject matter as a whole — television rental systems. The district court made no attempt in its opinion to identify the differences between the override switching examples that it cited and the claimed subject matter.

Second, the record discloses that COMPU-TEL is a fully automated television rental system whereas the claimed invention involves human monitoring and control. While COMPU-TEL and the claimed invention both exhibit certain switching elements, the functions of the switching elements in the two systems are different. The fully automated operation of the COMPU-TEL system does not involve overriding a locked key switch. The patient switch in the COMPU-TEL system functions to actuate the television as well as to initiate billing. The override switching means claimed in the Sonnenberg patent, on the other hand, functions to provide an alternative current path to the locked key switch and to actuate the indicator light.

Third, the prior art of record that the court did not discuss also differs significantly from the claimed subject matter. The five patent references cited in the Sonnenberg patent involve a variety of lock, metering, and control systems. None of them, however, employs an override switching mechanism to overcome a key operated actuating switch. The Western New York Hospital system involves a three position key switch. Yet, that system differs from the claimed subject matter in that it too does not employ override switching means.

Hence, we hold the trial court's assessment, that there are no differences between the claimed subject matter and the prior art, was clearly erroneous.

Level of Ordinary Skill and Secondary Considerations.

Additionally, the court below made no express finding with respect to the level of ordinary skill in the art. The trial court's analysis, however, clearly indicates that the level of skill was considered to be quite low. We interpret the court's findings as fixing the level of ordinary skill in the art as that of a layman. That finding has not been shown to be clearly erroneous. The court made no findings with respect to secondary considerations.

Claim Construction.

As noted above, the trial court's opinion reflects an extremely broad construction of the claims. Contrary to the district court's construction of the claims, the Sonnenberg patent does not claim "*all* systems of enabling a hospital patient to view television normally under his own power without the aid of an attendant." (Emphasis in original.) The court ignored express claim limitations governing the function of the switching means.

[2,3] Claims are to be read and construed in light of the specification and the prosecution history of the patent.[10] Further, claims should be so construed, if possible, as to sustain their validity.[11] Applying these principles, the claims of the Sonnenberg patent should be given a far more limited construction than that given by the district court in holding the claims invalid. The claims are limited to a system in which override switching means function to override a key switch when in its "off" position, enabling the television to operate normally. The Sonnenberg patent does not claim "*all*" hospital rental systems capable of operation without an attendant. Claim construction is a question of law.[12] We hold that the trial court's construction of the claims is incorrect as a matter of law.

Obviousness.

Turning now to the determination of obviousness under section 103, we conclude that none of the references, either alone or in combination, would have disclosed or suggested to one of ordinary skill in the art the use of override switching means in a television rental system. The trial court's heavy reliance on the widespread use of override switches appears to be no more than hindsight reconstruction of the claimed invention. The court below identified no source, other than the Sonnenberg patent itself, for the suggestion to use override switching means in a television rental system.

[4] Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination.[13] Under section 103, teachings of references can be combined *only* if there is some suggestion or incentive to do so.[14] The prior art of record fails to provide any such suggestion or incentive. Accordingly, we hold that the court below erred as a matter of law in concluding that the claimed invention would have been obvious to one of ordinary skill in the art under section 103.

Infringement

The trial court found that the Wells system does not infringe the claimed invention, either literally or under the doctrine of equivalents. Once again adopting the testimony of Wells' expert, the court below found that "the Wells system does not contain the element of overriding a locked switch." The district court also found differences between the ACS system and the Wells device with respect to the mechanism and circuitry of the actuating switch as well as with respect to the indicator light.

[5] These latter findings, however, will not support a finding of no infringement. The claims of the Sonnenberg patent are not limited to a specific switching mechanism or to specific indicator light circuitry. The district court appears to have compared the Wells system with ACS's commercial product, rather than with the claims of the Sonnenberg patent. Infringement is determined on the basis of the claims, not on the basis of a comparison with the patentee's commercial embodiment of the claimed invention.

[6] The district court's failure to supply more comprehensive findings of fact compounds the difficulty of appellate review, particularly in view of the complexity of the technical subject matter of this appeal. Findings of fact are to be construed liberally in support of a judgment. Confined to the trial court's limited findings, we are forced to draw from the facts found those inferences that are necessary to support the ultimate finding that the Sonnenberg patent is not infringed by Wells.[15]

In this endeavor we are not ourselves finding those facts which the trial court failed to set out for us. As an appellate court, we lack the power to perform that exercise. Where the trial court fails to make findings, the judgment will normally be vacated and the action remanded for appropriate findings to be made.[16] Where a full understanding may be had without the aid of separate findings, however, we recognize a narrow exception to that general rules.[17]

The ultimate finding of fact in a case, whether initially by the trial court, or as affirmed on appeal, rests on the same underpinnings, i.e., the necessary subsidiary facts, supported by evidence of record, that lead to that ultimate finding. Where the district court has not misapplied the controlling legal standards in its evaluation of the evidence, its ultimate finding as well as the subsidiary findings upon which the ultimate finding necessarily depends, is subject to review on appeal under the clearly erroneous standard of Fed.R.Civ.P. 52(a).[18] We examine the record in order to review the trial court's judgment, and the findings it made or necessarily had to have made to support that judgment and, thus, to conclude the controversy at this stage without unnecessary further expenditure of judicial resources, if possible.

The Sonnenberg Claims.

The Sonnenberg patent claims a rental television system having key operated actuat-

[10] Fromson v. Advance Offset Plate, Inc., 720 F.2d 1565, 1570-71, 219 USPQ 1137, 1140-41 (Fed.Cir. 1983); Autogiro Co. v. United States, 384 F.2d 391, 397-99, 155 USPQ 697, 702-04 (Ct. Cl. 1967).

[11] Carman Indus., Inc. v. Wahl, 724 F.2d 932, 937 n.5, 220 USPQ 481, 485 n.5 (Fed. Cir. 1983); Klein v. Russell, 86 U.S. 433, 466 (1874); Turrill v. Michigan S. & N.I. R.R., 68 U.S. 491, 510 (1864).

[12] Autogiro, 384 F.2d at 397-99, 155 USPQ at 702-04; LaSalle v. Carlton's Laydown Serv., Inc., 680 F.2d 432, 216 USPQ 276 (5th Cir. 1982); Studiengesellschaft Kohle mbH v. Eastman Kodak Co., 616 F.2d 1315, 206 USPQ 577 (5th Cir.), cert. denied, 449 U.S. 1014, 208 USPQ 88 (1980).

[13] Orthopedic Equip. Co., 702 F.2d at 1012, 217 USPQ at 199; cf. In re Samour, 571 F.2d 559, 563, 197 USPQ 1, 4 (CCPA 1978) (noting the rule in the §103 context and declining to extend that rule to §102(b) rejections); Corometrics Medical Sys., Inc. v. Berkeley Bio-Engineering, Inc., 193 USPQ 467, 475 (N.D. Cal. 1977).

[14] In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); In re Regel, 526 F.2d 1399, 188 USPQ 136 (CCPA 1975); In re Avery, 518 F.2d 1228, 186 USPQ 161 (CCPA 1975); In re Imperato, 486 F.2d 585, 179 USPQ 730 (CCPA 1973); In re Andre, 341 F.2d 304, 144 USPQ 497 (CCPA 1965).

[15] 5A J. MOORE, J. LUCAS, MOORE'S FEDERAL PRACTICE ¶52.06[1] (2d ed. 1984).

[16] Pullman-Standard v. Swint, 456 U.S. 273, 292 n.22 (1982); 5A MOORE'S FEDERAL PRACTICE ¶52.06[2].

[17] See 5A MOORE'S FEDERAL PRACTICE ¶52.06[2] n.4 and cases cited therein.

[18] Cf. Pullman-Standard, 456 U.S. 273.

ing means capable of being overridden by an override switching means. An indicating means signals that the override switching means has been actuated. Once overridden, the switches and the indicator light remain in their overridden positions until the key operated switch is switched on, resetting the override switching and indicating means.

The Accused Infringing Device.

The Wells device also contains each of the three physical elements of claims 1 of the Sonnenberg patent: (1) a key operated actuating switch; (2) a remote control actuating switch; and (3) an indicator light. The district court, however, found that the Wells device does not contain the claimed limitation of overriding a locked switch — a difference in function.

The Wells device is a modified version of a standard hospital/hotel/motel television receiver. The keylock in the Wells system actuates 5 switches: S1XA; S1XB; S1B; S1C; and S1D [Fig. 1].

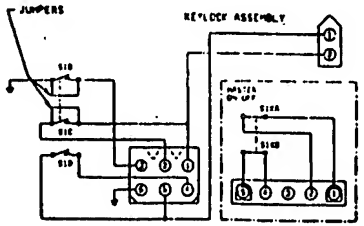

Fig. 1
Wells Device
Keylock Assembly As Manufactured

In the Wells device, the jumper wires, provided by the manufacturer on switches S1B and S1C, are not removed. [Fig. 2.]

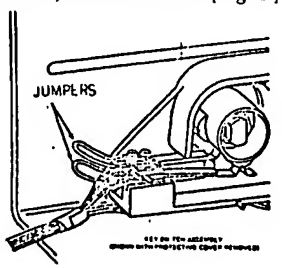

Fig. 2
Wells Device
Rear of Key Switch Showing Jumpers

Switches S1B and S1C are shorted out by those jumper wires, rendering those switches electrically inoperable.

Additionally, switch S1D [Fig. 1] is "replaced" by relay RL-2 [Fig. 3] of the Wells remote control circuit.

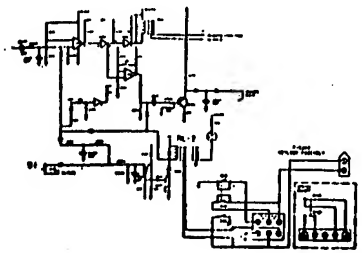

Fig. 3
Wells Device
Schematic of Remote Control and Key Switch Assemblies

Relay RL-2 is connected in parallel with switch S1D and one of the leads to switch S1D is cut between switch S1D and the connection of the lead to relay RL-2 [Fig. 3]. Thus, the circuit through switch S1D is broken, rendering that switch electrically inoperable.

Unlike switch S1D which it replaces, relay RL-2 is not controlled by the key switch. Rather, switch S1 [Fig. 3], located on the remote control unit, operates relay RL-2 in the Wells device. When S1 is not depressed, relay RL-2 remains normally closed. When switch S1 is depressed, the coil in relay RL-2 is energized causing relay RL-2 to open. Similarly, switch S1D, which relay RL-2 replaces, was normally closed when the television was not rented and was opened by turning the key switch to rent the television.

Switches S1B, S1C, and S1D, therefore, are disabled in the Wells device. The key switch operates only two switches — S1XA and S1XB [Fig. 1] — which control the delivery of power to the television receiver. When these switches are closed [positions 2 and 3] [Table 1], power is delivered to the tuner; when these switches are open [position 1] [Table 1], the circuit is broken and no power reaches the tuner.

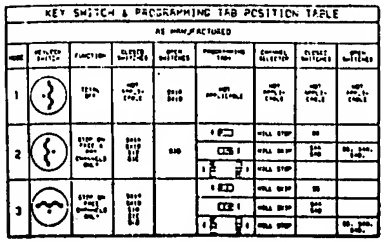

Table 1

As manufactured, when the key switch of a standard receiver is in position 2 [Table 1], switch S1D is open and the television operates normally. Position 2 functions as an "on" setting in the standard receiver. In the Wells device, however, switch S1D [Table 1] has been disconnected and it has been replaced by relay RL-2. Relay RL-2 cannot be opened by manipulation of the key switch, as was switch S1D. Thus, the receiver cannot be actuated merely by turning the key switch to position 2 in the Wells device.[19] Switch S1 opens relay RL-2. The Wells receiver can be made fully operable only by depressing switch S1 [Fig. 3] while master on-off switches S1XA and S1XB are closed — position 2 or 3 [Table 1].

When the key switch is in position 1, power is interrupted and depressing actuating switch S1 will not actuate the receiver. The Wells key switch performs the same function in position 2 as in position 3. In both of these positions, while power is supplied to the tuner, the actuating switch S1 must be depressed in order to actuate the television. Thus, switch S1 does not override the key switch of the Wells device.[20] Switch S1 and the key switch are electrically independent in the Wells device [Fig. 4].

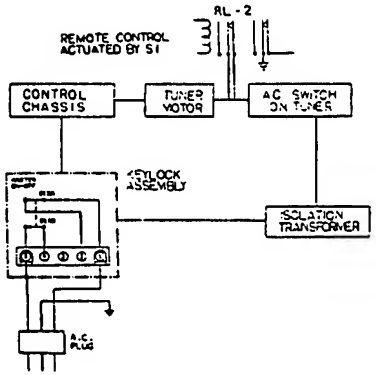

Fig. 4
Wells Device
A.C. Switching

In summary, the Wells device exhibits three modes of operation: (1) off — locked out (switches S1XA and S1XB open); (2) rentable — key position 2 or 3 and S1 not actuated (switches S1XA and S1XB closed and switch S1 open); and (3) rented — key position 2 or 3 and S1 actuated (switches S1XA and S1XB closed and switch S1 closed). Normal operation of the Wells device can be achieved *only* by depressing S1 *while* the power is switched on (key switch position 2 or 3). The invention claimed in the Sonnenberg patent, on the other hand, also exhibits three modes of operation: (1) "off" — rentable (override switch not actuated); (2) "On" — rented (override switch actuated); and (3) "on" — key operation (key switch turned on and override switch not actuated).

On the basis of our examination of the record we infer that the district court neces-

[19] It appears that had RL-2 and S1D been wired in series, instead of in parallel with S1D disabled, the Wells device would exhibit the claimed "on" function.

[20] Our assessment of the operation of the Wells device is based on the trial court's findings and on the documentary and testimonial evidence of record. It appears that only switches S1XA and S1XB are controlled by the key switch. Thus, our analysis supports the trial judge's implication that there is no functional difference between positions 2 and 3 of the key switch. The above analysis assumes that the key switch does not operate some third circuit that is actuated in either position 2 or position 3, but not both. We are aware of no evidence that such a third circuit fulfills the role of the key switch and is in turn overridden by switch S1.

sarily found the following relative to the Wells device: (1) switches S1B, S1C, and S1D are disabled; (2) the key switch controls only switches S1XA and S1XB — the master on-off switch; and (3) the receiver can be actuated only by depressing S1 while the key switch is in either position 2 or 3 (so that switches S1XA and S1XB are closed).

Literal Infringement

These implied findings lead inexorably to the district court's express finding that the Wells device lacks the claimed limitation of overriding a locked key switch. Further, these findings indicate that the Wells device does not exhibit the claimed "on" key switch position.

Both the "on" and "off" positions recited in claim 1 correspond to the "on" positions [positions 2 and 3] of the key switch in the Wells device. The Wells device cannot be operated normally through the key switch alone, as is required by claim 1. Rather, switch S1 must be depressed in conjunction with power being supplied to the receiver through the key switch. Hence, on the basis of the record before us, we conclude that the district court's finding, that Wells does not literally infringe the claims of the Sonnenberg patent, is not clearly erroneous.

Doctrine of Equivalents

While the district court purported to apply the standard articulated in Graver Tank & Manufacturing Co. v. Linde Air Products Co.,[21] it entered no findings on the issue of equivalence: whether the Wells device performs substantially the same function as the claimed invention in substantially the same way to obtain substantially the same result.[22] Yet, the court clearly implied that Wells does not infringe the Sonnenberg patent under the doctrine of equivalents and entered judgment to that effect.

We infer that the district court necessarily found that the Wells device, lacking the claimed function of overriding a locked key switch, does not function in substantially the same way as the claimed invention. That inference is supported by the record. Accordingly, we conclude that the district court's finding, that the Wells device does not infringe the Sonnenberg patent under the doctrine of equivalents, is not clearly erroneous.

Hence, we affirm in part the judgment of the district court insofar as it relates to the finding that the Wells device does not infringe the claims of the Sonnenberg patent, either literally or under the doctrine of equivalents.

Attorney Fees

[7] The trial judge found that this is not an exceptional case and denied Wells' request for attorney fees. In order to prevail on its cross-appeal, Wells must establish that the trial judge abused his discretion in this regard and not merely, as Wells' attorneys contend, that the trial judge committed clear error. Wells has not demonstrated the requisite abuse of discretion, although it attempts to do so by demonstrating alleged fraudulent conduct by ACS before the Patent and Trademark Office. Fraud has not been shown. Nor have other facts been established that would demonstrate that the trial judge abused his discretion in finding that this case is not exceptional. Thus, we affirm the district court's denial of Wells' motion for attorney fees.

Conclusion

In summary, we hold that the district court committed both clear errors of fact and errors of law with respect to its resolution of the validity issue. The district court's conclusion that the Sonnenberg patent is invalid under section 103 is incorrect as a matter of law. We conclude that the trial court's finding, that Wells does not infringe the claims of the Sonnenberg patent, either literally or under the doctrine of equivalents, is not clearly erroneous. Additionally, we hold that the trial judge did not abuse his discretion in denying Wells' motion for attorney fees.

Affirmed-in-part. reversed-in-part.

[21] Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 607-09, 85 USPQ 328, 330-331 (1950).

[22] Id. at 608, 85 USPQ at 330; Sanitary Refrigerator Co. v. Winters, 280 U.S. 30, 42, 3 USPQ 40, 44 (1929).

Court of Appeals, Federal Circuit

Roche Products, Inc. v. Bolar Pharmaceutical Co., Inc.

No. 84-560

Decided Apr. 23, 1984

PATENTS

1. Infringement — In general (§39.01)

35 USC 271(a) incorporates disjunctive language of statutory patent grant which gives patentee right to exclude others from making, using, or selling patented invention; performance of only one of three enumerated activites is patent infringement; in particular, use of patented invention, without either manufacture or sale, is actionable; thus, patentee does not need to have any evidence of damage or lost sales to bring infringement action; Section 271(a) prohibits, on its face, any and all uses of patented invention; because Congress never defined use, its meaning has become matter of judicial interpretation.

2. Court of Appeals for the Federal Circuit — In general (§26.51)

Precedents of Court of Claims bind CAFC.

3. Infringement — In general (39.01)

Accused infringer's intended use of patented drug for federally mandated premarketing tests does not fall within "traditional limits" of experimental use exception as established in Ordnance Engineering Corp. v. U.S., 32 USPQ 842, Chesterfield v. U.S., 116 USPQ 445, Douglas v. U.S., 181 USPQ 170, and Pitcairn v. U.S., 192 USPQ 612; experimental use exception is truly narrow; argument that it deserves broad construction is not justified.

4. Infringement — In general (§39.01)

Pitcairn v. U.S., 192 USPQ 612, which sets forth law that tests, demonstrations, and experiments that are in keeping with legitimate business of alleged infringer are infringements for which experimental use is not defense, is most persuasive of Court of Claims cases concerning experimental use defense.

5. Infringement — In general (§39.01)

Unlicensed experiments conducted with view to adaptation of patented invention to experimentor's business is violation of rights of patentee to exclude others from using his patented invention; it is misnomer to call accused infringer's use of patented drug for federally mandated premarketing tests de minimus; CAFC cannot construe experimental use rule so broadly as to allow violation of patent laws in guise of "scientific inquiry," when that inquiry has definite, cognizable, and not insubstantial commercial purposes.

6. Patent grant — In general (§50.01)

CAFC must presume that Congress was aware that FDCA would affect earning potentiality of drug patent, and chose to permit it.

7. Court of Appeals for the Federal Circuit — Issues determined (§26.53)

Court of Appeals for the Federal Circuit — Jurisdiction (§26.55)

CAFC is not proper forum in which to debate proposed bills regarding interaction of patent laws and drug laws, no matter how persuasive policy arguments are for or against these bills.

8. Court of Appeals for the Federal Circuit — Issues determined (§26.53)

Injunction — In general (§40.1)

Patent owner is entitled to remedy, since CAFC holds that there is infringement; CAFC is not in position, however, to decide form of that remedy.

9. Injunction — In general (40.1)

Case is not moot, because although patent expired and thus initially requested order is no longer necessary, other remedies can be fashioned to give patent owner relief against infringement, such as order to confiscate and destroy data infringer generated during its infringing activity.

10. Court of Appeals for the Federal Circuit — Issues determined (§26.53)

Injunction — In general (§40.1)

35 USC 283 provides basis for injunctive relief; Section 283 makes issuance of injunction discretionary; court may grant relief in accordance with principles of equity; trial court has considerable discretion in determining whether facts of situation require it to issue injunction; scope of relief is not for CAFC to decide at first instance.

11. Injunction — In general (§40.1)

Jurisdiction of courts — Patent infringement (§43.45)

District judge, before getting into issue of equitable relief, must determine if he can deal with case by adequate money damages; if he can, predicate for equitable relief of harsh, or even mild, character is gone; it is not case that